March 29, 1930

Textile World

Vol. LXXVII, No. 13

Published every Saturday by Bragdon, Lord & Nagle Company,
Division of McGraw-Hill Publishing Company, Inc., New York

Editor: Douglas G. Woolf

Action, Not Words, Needed in Rayon

ANYONE who attempts to ignore the present unsatisfactory position of the rayon yarn market is impersonating the ostrich.

Optimistic statements regarding the outlook are of no avail. It may be true that the excess of production over sales is not large. It may be true that reports of price-cutting have been exaggerated. It may be true that the practice of selling first quality yarn at second quality prices, in order to move stocks, has been followed to only a limited extent.

The fact still remains that confidence in present levels has been destroyed; that rumors of a pending price cut are rife; that commitments for the future are being withheld owing to this uncertainty.

If the situation involved merely the financial progress of the relatively few firms who manufacture rayon yarns, it would not warrant this major editorial emphasis. However, the rayon market is a cross-sectional factor, affecting all branches of the textile industry. Price instability among first hands means price instability among all the consuming trades.

•

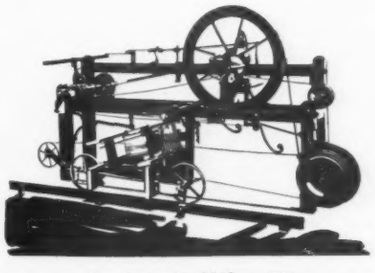
Action, not words, is needed for the restoration of stability. Determination of the form such action should take demands all the courage and all the merchandising genius yarn producers can bring to the situation.

It is stated freely that the direct consumers of rayon do not want a price cut. The inference to be drawn from such a statement must be qualified. The thing they do not want is a fluctuating market. The thing they do want is the stability which characterized rayon prices in past years and which they have a right to expect from a man-made fiber.

•

If yarn manufacturers find themselves at present with excessive stocks which they feel obliged to move at prices below list quotations, they should announce immediately a reduction which would be sufficient to guard against another cut in the near future; and they should then adhere strictly to the new levels. If, on the other hand, they feel under no necessity to move such stocks as may have accumulated, and in fact feel that it is economically unsound to sell below existing list prices, they should take steps immediately to curtail their production to balance with apparent demand and meanwhile should adhere without exception to list quotations.

Through their new association, they have facilities through which they can determine the exact facts regarding the production-consumption balance. If they do not act on the basis of these facts in a manner which will restore stability to the market, they are not only imperiling the progress of their customers—who represent a considerable part of the textile industry—but are retarding the prospects of the entire synthetic fiber development.



Crompton's Mule—1779

The Week in Textiles

Outlook . . .

INTEREST IN raw cotton centers on nearby months. Traders hesitate to take either long or short position. . . . . Quotations firmer in cotton goods and growing unwillingness to sell contracts at present prices. . . . . Conditions in wool goods slightly better. . . . . Cottons show some activity in underwear market; rayons quiet. . . . . Only slight improvement in hosiery. . . . . Raw silk has better undertone.

The First Quarter, 1930 . . .

THERE ARE many indications that the close of the first quarter of the year finds general business and industry definitely on the upward trend, according to Robert M. Davis, Statistical Editor, McGraw-Hill Publishing Co. The textile industry appears to be one of the main sufferers in current recession. . . . . In the country as a whole, February operation in textiles, as measured by the consumption of electrical energy for power purposes, was 8.1% under January, 20.4% under November, and 22.1% under February last year. . . . . New England mills reported February operations 24.6% under last year while the drop in southern mills was 40.7%. On the other hand, fabricating branches of industry, as exemplified by north central States, report better conditions, February being 9.6% above last year. . . . . Average rate of operation during first quarter for industry as a whole about 18% under 1929 based on electrical power consumption.

Strike Settled . . .

SETTLEMENT HAS been reached in the strike of about 1,400 workers of the H. C. Aberle Co., hosiery manufacturers of Philadelphia. . . . . Present rate of wages will obtain until arbitration is completed, with adjustments being made, upon settlement, dating back to time of resuming work. . . . . Strike has been in progress since Jan. 7. . . . . Small riot occurred outside Artcraft Silk Hosiery Mills where knitters are on strike this week.

The Textile Orient . . .

EDWARD T. PICKARD, chief of the Textile Division of the Bureau of Foreign and Domestic Commerce, is presenting a series of nine lectures at the Foreign Service School of Georgetown University this month. . . . . The general topic of the series is the importance of the Orient as a producer of textile fibers and as a market for finished goods.

Cotton Spindle Activity . . .

DURING FEBRUARY cotton spindles operated at 97.7% of single shift capacity, based on 8.88 hours per day, according to Department of Commerce. Comparative figures are: January, 100.3%; December, 88.2%; November, 104%; October, 108.7%; September, 104%; and February, 1929, 110.7%. . . . . There were 34,523,296 spindles in place on Feb. 28, of which 28,926,580 were operated at some time during the month. . . . . In ratio to capacity the monthly average for 1929 was 104.7%; 1928, 95.3%; 1927, 104.7%; 1926, 95.4%. Previous years ranged from 78.5% in 1924 to 98.9% in 1923.

Futures Trading . . .

TRIBUTE PAID to efficient operation of futures exchanges in cotton and grain by Townsend investigating committee, Senate, and more recently by Secretary of Agriculture Hyde has diminished likelihood of any legislation to curb speculation in these markets. . . . . Old Caraway bill, which would restrict futures trading to contracts compelling delivery and acceptance of commodity, is expected to be brought up by Senate committee, but consensus in Congress appears to be against creating disturbance in markets which would result from consideration at this time.

Textile Unemployment Abroad . . .

GREAT BRITAIN has suffered the most in lack of employment among the cotton industries of the more important countries. . . . . For the half year ended Jan. 31, 1930, stoppage in the American section amounted to 9 weeks and in the Egyptian section to 4.5 weeks of 48 hours. There were 4,840,100 spindles in the American section completely stopped during the period. . . . . Stoppages in other countries for the same half year, in 48-hour weeks, were: Italy, 3.9; Japan, 3.09; Switzerland, 2.9; Russia, 2.65; Germany, 2.35; China, 2.13; France, 1.36; Belgium, 1.32; Holland, 0.047.

More Than In Gay Nineties . . .

DESPITE THE radical change in women's styles, per capita consumption of cotton cloth is nearly 20% greater than it was 30 years ago, according to an analysis just made by Paul B. Halstead, secretary, The Cotton-Textile Institute. While population has increased 2% a year, consumption has averaged an increase of over 3% each year. . . . . New markets for cotton goods in automobiles, etc., is the explanation. . . . . Since 1923 average per capita consumption has been 68 sq. yd. per year. . . . . Thus another glib explanation of the present cotton textile situation is routed by facts.

Ginning Reports . . .

FOR THE year, 1929, cotton ginned amounted to 14,821,499 bales of 500 lb., according to preliminary report of Department of Commerce. In 1928 the total was 14,477,874, and in 1927 ginnings were 12,956,043

bales of 500 lb. . . . . Cotton consumed during the month of February amounted to 495,204 bales, a drop of 82,000 bales from January. In February last year 594,720 bales were consumed and the February, 1928, total was 572,875 bales.

Fashion As a Business . . .

THE CORRECT interpretation of fashion to hosiery and underwear manufacturers will be the subject of the address, "Fashion on a Business Scale," to be delivered by R. C. Kramer, associate director of Amos Parrish & Co., New York, at the annual convention of National Association of Hosiery and Underwear Manufacturers in Philadelphia, May 15. . . . . Amos Parrish & Co. is the largest fashion organization in the country and it will be the first time that a representative has addressed any trade association convention in the United States.

Lower Silk Rates . . .

SEATTLE, WASH., alarmed at the amount of raw silk which was being shipped via the Panama Canal, has obtained from the western railroads a new freight rate on rail shipments from the Pacific to the Atlantic seaboard. . . . . It is expected that eastern roads will concur. . . . . Differential in favor of water route has been $6 per 100 lb., which more than offset the advantage in time, insurance, etc., offered by the Seattle route. It is reported that new rate will cut differential to $3. . . . . Each year 32,000,000 lb. of raw silk pass through Seattle.

Hospitality . . .

A REPRODUCTION of a seventeenth century American home is being built in Salem, Mass., on a site near the Pequot plant of the Naumkeag Steam Cotton Co. . . . . The house is being built by the company as a place to welcome the thousands of visitors expected to inspect the plant during the tercentenary celebrations this year.

More Raw Cotton Competition . . .

THE GERMAN Textile Experimentation Institute has found that cotton from Russian Turkestan, recently received in Hamburg, is of very good quality and cleanly packed, according to report received by U. S. Department of Commerce.

An Export Market . . .

AMERICAN MANUFACTURERS have an opportunity to develop a fair export trade with Japan in cotton upholstery and curtain materials. Textile Division, Department of Commerce, has received reports indicating that the Japanese domestic production is not satisfying the demand for high grade fabrics.

Men's Wear Suitings . . .

THE CURRENT analysis of men's wear suiting orders, issued by the Wool Institute, Inc., reveals the fact that the call for fall fabrics has, to date, shown an increase in plain and small weaves at the expense of stripes. It is pointed out, however, that the slow start of the present buying season may cause the percentages to change more than usual during March. Among the colors, blue shows gains.

Propose Ginning Research . . .

TO ENCOURAGE more efficient ginning of cotton, House Agricultural Committee has reported out bill authorizing establishment of experimental gin plant in the cotton belt for the purpose of research work. . . . . Representative Whittington, one of sponsors of project, called attention of Congress to the large annual losses cotton growers suffer because of improper ginning methods, stating there is frequently a difference of $\frac{1}{16}$ in. in the ginning of the same variety or class of cotton, and that in Mississippi a loss of $15 per bale on long staple cotton is traceable to this cause.

Lowell Textile Institute News . . .

SECOND ANNUAL Open House will be held at Lowell (Mass.) Textile Institute on April 11, when all departments will be in operation. To complete the picture of raw material to finished product, three sheep will join the exhibit. . . . . Albert Palmer, director of research, Crompton & Knowles Loom Works, is at present delivering a series of four lectures on weaving, costs of operation, machine design and mill problems.

Machinery Exports . . .

VALUE OF textile machinery exports for February shows a decided decline as compared with February, 1929. Respective figures are $715,624 and $1,094,710. . . . . During 1929 the monthly average ran slightly over $1,000,000 and January, 1930, value was $1,039,494. . . . . Full fashion hosiery machines, winding machines, and wool carding and weaving machinery were the only items showing an increase.

Color in the Home . . .

A STUDY OF interior decorating service in department stores has been issued by the Bureau of Research and Information of the N.R.D.G.A. . . . . Its significance lies in the fact that there is a spread of the ensemble idea in homefurnishings which should not be ignored by anyone supplying textiles for such use.

Textile Show Tickets

TEXTILE WORLD has at its New York office, 10th Ave. and 36th St., a limited number of complimentary tickets for the International Textile Exposition to be held at the Mechanics Building, Boston, April 28 to May 3. Readers who desire tickets for this show may secure them by writing to that office.

Industry Endorsing Uniform Work-Week

THE recommendation of a uniform work-week in cotton mills is rapidly receiving the endorsement of the industry, according to the following report submitted this week to Secretary of Commerce Lamont by Walker D. Hines, chairman of the board, and George A. Sloan, president of The Cotton-Textile Institute:

"We believe you will be interested to learn that to date a gratifying response has been made to the recommendations looking to greater uniformity in running time and greater regularity of employment recently made to the cotton textile industry by a group of 24 mill executives following the conference with you and other Department of Commerce officials in Washington on Jan. 16, 1930.

"We are advised that mill executives in New England and southern States, representing 422,901 looms and 18,494,396 spindles, have subscribed to the soundness of these recommendations. This represents approximately 59% of the looms and 54% of the spindles in place in the United States."

The announcement of the submission of this report contained the following comment made by the Institute officials:

"This movement which we regard as highly constructive is going forward in all branches of the industry and we are hopeful that in the near future the maximum running time recommended, i.e., 55 hours for the day shift and 50 hours for the night shift, and with no overtime beyond those hours, will be observed by the cotton mills generally in the United States.

"There is a general feeling throughout the cotton textile industry that this plan will tend to diminish the present disturbing practice of periods of over-production and over-employment followed by periods of reduced production and reduced employment. For some years past the mills have actually been running on a lower total basis of production and employment than is indicated by these schedules but under conditions which have led to much unnecessary irregularity. Leading mill executives sponsoring the recommendations have expressed the hope that this plan will eliminate many of these irregularities which in the past have been matters of concern to management and employes alike."

Mergers Among Fine Goods Mills

ACCEPTANCE by the stockholders of the King Philip Mills, Fall River, Mass., of the plan for consolidation with the Berkshire Fine Spinning Associates, Inc., has renewed speculation on the merger possibilities in the New England district. Interest centers about Fall River, but New Bedford is also buzzing with rumors.

There are three groups in the field, United Merchants & Manufacturers Inc., which is apparently content to rest for the time being, Berkshire Fine Spinning Associates, Inc., which seems fairly on the way to a consummation of their apparent plans, and Jerome A. Newman, reported backed by Bancamerica-Blair Corp., of New York. The latter group's activities have not led to much that is definite and, as the negotiations must necessarily be carried on in secret, there are any number of guesses floating about.

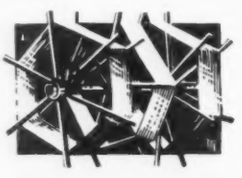
The Newman Development

Last September the Newman group obtained control of the Merchants Mfg. Co., of Fall River, and have operated the mill since that time at a reported profit. The next news was the call issued in January, to the stockholders of the Taber Mills, New Bedford, to vote on a merger plan proposed by Mr. Newman. At the stockholders' meeting it was stated that the call had been made in error as technically the directors should have voted on the proposition before submitting to the stockholders. This was the first New Bedford mill to be mentioned. Shortly thereafter it became known that Mr. Newman believed that the signature of one more mill would insure the merger of over 1,000,000 spindles. Since that time there have been no further surface developments.

There has been some discussion of the methods which the Newman group would pursue, many believing that there would be outright purchase. Mr. Newman is quoted as saying in February that under his plan the old stockholders would own the new concern, which is the reverse of the outright purchase policy.

On the surface it would appear that Mr. Newman's plans have been somewhat upset by the Berkshire activities. The latter have secured the King Philip and Parker Mills of Fall River—although Parker bondholders are holding back—and the Davis and Lincoln Mills are expected to follow suit. It may well be that Mr. Newman was negotiating with these mills and is now under the necessity of rearranging his plans. It is probable, however, that a merger will develop before very long.

The latest element in the puzzle is Sam Lamport, of New York, who bought an interest in Lawton Mills Co. Rumor links his name with Mr. Newman's. Mr. Lamport refuses to deny or confirm the report.



T. B. Hill Elected to Head Silk Association

Thomas B. Hill, Elected President of Silk Association

CONDITIONS in the silk industry during the last year were discussed and analyzed at the annual meeting of the Silk Association of America, Inc., held Wednesday afternoon at the Silk Association's headquarters in New York. The meeting was presided over by H. Morton Merriman, of Belding, Heminway & Co., vice-president, in the absence of H. Schniewind, Jr., of Susquehanna Silk Mills, president of the association. It was explained that Mr. Schniewind was away on a trip. The members of the association at the annual meeting elected the board of managers for the coming year. Then the new board of managers met and elected officers of the association.

Mr. Schniewind, who has served three consecutive terms as president of the association, declined to run again, and Thomas B. Hill, of C. K. Eagle & Co., was elected president in his stead. Warm tributes were paid to the work done by Mr. Schniewind during his tenure of office.

Other officers were elected as follows: Paul C. Debry, of Duplan Silk Corp., was reelected vice-president; William Hudd Hubbard, of William Skinner & Sons, W. R. Thomas, Jr., of Wahnetah Silk Co., also were elected vice-presidents. S. Tajima, of Mitsui & Co., was elected a member of the executive committee, and Ramsay Peugnet, was reelected secretary and treasurer.

The following were elected to the board of managers: J. P. T. Armstrong, the Corticelli Silk Co.; Charles L. Auger, National Silk Dyeing Co.; Thomas B. Hill, C. K. Eagle & Co., Inc.; Frederick H. Knight, Susquehanna Silk Mills; Irving Lewin, Lang & Lewin, Inc.; Charles Muller, Sulzer, Rudolph & Co., Inc.; A. B. Strange, The Read & Lovatt Mfg. Co., and M. K. Yorks, Bloomsburg Silk Mill.

Mr. Schniewind Honored

Mr. Schniewind, retiring president of the association, was elected an ex-officio member of the board of managers and of the executive committee. E. J. Stehli, Stehli Silk Corp., who has served as a member of the board of managers for the last 23 years and as vice-president of the association for eight years, was elected honorary member of the board of managers. Mr. Stehli has also acted as president since 1914, of the United States Testing Co., Inc., official testing house of the Silk Association. A. D. Walker, of A. D. Walker & Co., who has been a member of the board of managers for 19 years, was also elected honorary member of the board. Mr. Walker has been active in the work of the raw silk division, is chairman of the committee on referenda, and has been chairman of the committee on arbitration since 1919.

Thomas B. Hill, the new president, was born in Pennsylvania and first joined the staff of C. K. Eagle & Co., Inc., 18 years ago as chief accountant, previously having been in the banking business. He later became manager of the manufacturing and converting plants of the Eagle Company, and in 1921 president of the company. Mr. Hill makes his home at Beachmont, New Rochelle. Mr. Hill was elected to the board of managers of the Silk Association in 1924, and has been active in association work. He is a member of the executive committee, member of the advisory committee on design registration, member of the broad silk manufacturers division and was a member of the executive committee for the Second International Technical Raw Silk Conference.

Reports Submitted

Reports submitted at the general meeting covered the conditions in all chief divisions of the silk industry during 1929. The tone of the reports was optimistic, though it was acknowledged that the year was one of many handicaps. The sentiment, both of the association members who submitted these surveys, and the meeting itself, was that the silk industry had maintained a fairly stabilized condition in the face of unfavorable conditions which had an adverse effect on all branches of American industry.

Numerous activities and aspects of 1929 were touched upon in the association's annual report which was submitted at the meeting. These included the Second International Technical Silk Conference, held in New York City, last fall, and work done in the following divisions—raw silk classification, research and standardization, sericulture, broadsilk manufacture, weighting, design registration, design piracy, legislation, promotional publicity, misbranding, traffic, trade-mark registration, personnel exchange and arbitration.

Credit Activities

Special interest attached to certain reports, such as that of the Uptown Credit Group. Following the market crash of last fall, numerous dress manufacturers found themselves in difficulties and broadsilk houses had to exercise keen vigilance as regards credit extension. A. M. Winter, chairman of the executive committee for this group, reported that close personal contact between credit executives and constructive work generally resulted in a helpful exchange of information which facilitated the task of credit extension. The chairman urged further cooperation to help the stabilization of credits.

J. Hashimoto, president of Morimura, Arai & Co., reporting on raw silk, said a general purchasing hesitancy in this country, and overproduction of silk in Japan caused a depression of Japan silk prices. Commission throwing was discussed by H. A. Reiling, president of H. A. Reiling, Inc., Gouldsboro, Pa. He urged curtail-

(*Continued on page 89*)

Warp Preparation and Weaving Discussed at Overseers' Forum

AT THE forum for overseers of warp preparation and weaving held in Boston March 13, under the auspices of the National Association of Cotton Manufacturers, 80 men were present, representing 47 different mills. The subjects discussed included slasher speeds, stretch, warping and slashing rayon, shiners, cooking size, moisture content of yarn, use of split rods, number of looms per weaver, rest periods for weavers, loom speeds, dead whip rolls, cloth defects, etc. The value of the meeting to the mills represented was pointed out by President Lincoln Baylies in his opening address. "The American cotton industry," he remarked, "leads the cotton manufacturing industries of the world in the use of automatic devices for warp preparation and weaving."

The first topic discussed was the question of correct slasher speeds. One member remarked that on a 60-yd. cut of hard-twist voiles, 56 square, he is taking off nine beams per day, 30 cuts on a beam. Another member stated that on hard-twist voiles he is getting 28 to 30 yd. per minute; and another, that on 40s warp broadcloth, 128 x 64, he is running his slashers at the rate of 22 yd. per minute. Other reports on broadcloth were as follows: On 112 sley 40s, —30 yd. per minute; on 5300 ends, 48s, four to the square, 144x26, —22 yd. per minute; on 2524 ends, 20s, —38 yd. per minute; on 5200 ends, 20s, —20 yd. per minute; and on 3904 ends, 20s, —23 yd. per minute.

Moisture in Yarn from Slasher

Reports on the amount of moisture left in the warps as they come from the slashers included 5, 5½, 6 and 7%. One speaker pointed out that speed and moisture content are closely related and that the former should be chosen to give a desirable amount of the latter. Several members stated that they have their moisture content tested regularly.

Reports on the amount of stretch allowed in slashing were as follows: On 20s to 60s yarn, 1 to 1½%; on 28s yarn, 2¼%; on 20s yarn, 1 1/10%; on 14s yarn, 3/10%; on 10s yarn, 1½% (1200 ends). The last four reports were from one overseer, and he stated that his standard of twist is 4.30. One member pointed out that the percentage of stretch is controlled by the stock and the twist, and stated that he believed that high twist gives more stretch than low twist. Another remarked that on 36/2 he gets no stretch. Slack tension was pointed out as necessary for reducing stretch. The importance of keeping the same amount of cloth on the calender roll in the front of the slasher was emphasized. Care should be taken, it was stated, to use the same length of cloth at all times and to replace the cloth whenever it becomes hardened and worn down. One overseer pointed out the necessity for reducing the amount of tension on colored work as compared with gray work.

The discussion next turned to the warping of rayon. One member reported that on the circular warper he is running rayon without humidity at the rate of 64 yd. per minute, without load. He stated that he does not run over 5% stretch on any weaves. Another reported that he is making a six-section-beam set at the rate of 35 yd. per minute with good results, except for a large amount of waste which is left on the section beams. From the viewpoint of expense, this speaker stated that he believed the silk warper and slasher are more satisfactory. Another member declared that, on a five-beam set with 840 ends on a beam, he is also warping rayon at the rate of 35 yd. per minute. The member who reported using six section beams stated that the beam creel is raised at the extreme end so that no beam touches another.

Methods of Slashing Rayon

The speaker who has used six section beams on the slasher described his method of operation as follows: "I cut down the standard creel so that there was about ½-in. spacing between heads. Then I intersected those beams, one over and one under, and rolled the whole combined sheet over a roll, through one set of squeeze rolls, over a roll between the finishing roll and the cylinder, over the small cylinder, over the next roll, underneath the small cylinder, and over the large cylinder, cutting off part of the large cylinder—in other words, cutting off in front and underneath the roll in front, right onto the beam. We used 660 ends of 150 denier rayon on our beams. We have had very good results with it and, allowing for waste, I figure that we had a stretch of between 9 and 10%."

One overseer remarked that on sizing celanese warps he has better success with the cotton system than with the silk system, as the former results in less rolling. He stated that he is now using five beams of 703 ends each. It was pointed out that proper tension is very necessary in handling celanese and that a gear is desirable to take up the stretch in order that the yarn may be kept tight. One member stated that he has run with a 4% stretch on a one-cylinder rayon slasher.

The method for slashing rayon used by one of the mills represented at the meeting is as follows: A fine grade of gelatin glue is used with sulphonated olive oil for softener, this mixture being made up by the mill itself. Different formulas are used to suit different weaves. A Johnson slasher is used and the sheet is run direct from the beam to the copper roll and the middle roll. The back cylinder is covered. A prepared size is used and this is mixed with water. The speed is from 12 to 14 yd. per minute, with a stretch allowance of from 2 to 5%. The front cylinder is uncovered. Just one large cylinder is used, and the size box is moved up a little to eliminate stretch when the rayon is wet. Another speaker stated that he uses the same method on 2500 ends of rayon warp running on regular cotton slashers with a stretch of about 2%. The purpose of covering the back cylinder with cloth is to prevent burning of the yarn, although the speaker believed that this covering is not necessary. He stated that he uses temperature con-

trol on each cylinder with a head of steam running from 12 to 15 lb. gage. The temperature of the back cylinder is 190; of the middle cylinder, 210; and of the front cylinder, 200. It was pointed out that consideration should be made of the fact that the circumference on the Johnson slasher is only about half that of the cylinder on the cotton slasher.

On 150 denier one member reported that he is running 5030 ends at the rate of 12 yd. per minute, but another member stated that on 2812 ends he can get only 6 yd. per minute, using about the same steam pressure. Another speaker suggested that the trouble in the latter case might be due to unsatisfactory condensation per gallon of water on an hour basis. He believed that the drying surface and the quality of the steam affected the results obtained.

Beaming Without Paper

With regard to the use of paperless beams, a representative of one of the large rayon converters reported that, of the 800 to 900 beams turned out per month by his concern, only about 6% are prepared with paper. He stated that the 6% included all his low-endage warps. The elimination of paper is made possible by the use of movable flanges, he explained. Another speaker declared that one of his mills is running 250 looms without paper and that seven or ten of these looms have no warp breakage to report. Others have one or two. The highest warp breakage on a certain day was seven. The fact was brought out that it is possible to use the movable flanges on ordinary loom beams. The general consensus of opinion was that beaming without paper by the use of movable flanges is thoroughly satisfactory, provided the loom beam is made of wood hard enough to resist splitting.

In discussing gums the members were mostly of the opinion that the use of this accessory is desirable to hold the size together.

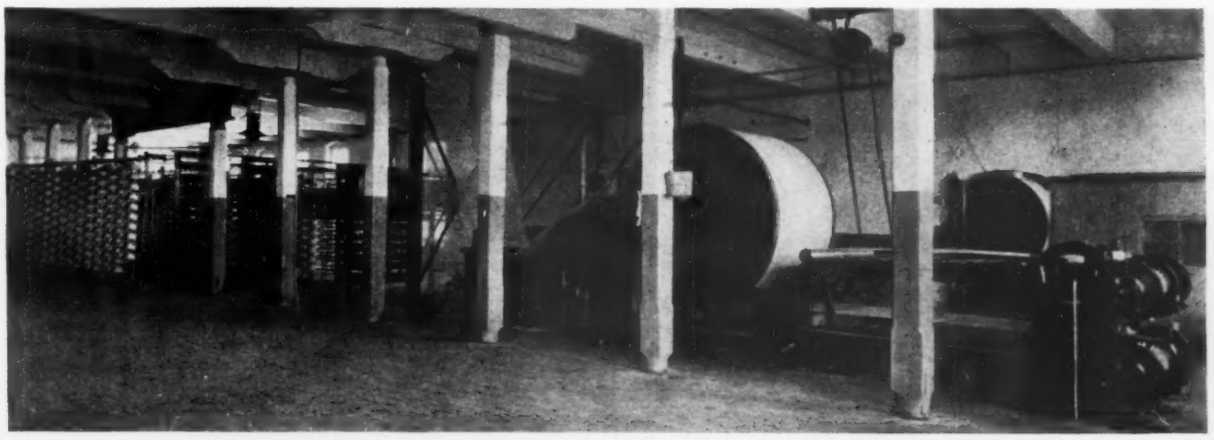
In replying to a question on the time required for cooking size, one speaker stated that his automatic controls bring the size to a boil in 50 minutes and hold it there for 20 minutes. Another member stated that he tested his size to find whether or not it was cooked sufficiently by immersing a stick in the kettle, pulling it up, and letting the size drop off. From his experience he could tell by the appearance of the sheet of size whether or not it was cooked properly. Another stated that he cooked some of his size 25 minutes and some 35 minutes; and another, that he held his size to a boil for 50 minutes. It was recommended by one speaker that the size be tested by placing some of the solution on filter paper. If the water runs through, leaving the ingredients on the top, the size is not cooked enough to give proper penetration, and will cause excessive shedding and chafing through the lease rods as well as in the weaving.

On the question of running size to waste at night or holding it for use in the morning, the consensus of opinion was that in some cases it is all right to hold the size over night, provided the surface is below the rolls, but that for best results it is not desirable to do so. The practice sometimes causes an objectionable "skin" to form; but, if care is taken to keep the size below the rolls and to boil it thoroughly in the morning, it was stated that this difficulty can be overcome.

A member stated that he takes his blankets off every night and lets them soak in a tub over night. In the morning he puts the blankets back on again and washes the size off. This, he declared, doubles the life of the blanket. Another remarked that he stripped the blankets every time a set comes off, which usually occurs every 12 or 14 hours. He stated that he uses sheeting on both rolls and that he strips the rolls, gives them a coat of white paint, puts on the sheeting, and then adds the flannel on top. Another stated that he uses burlap, and this remark brought forth the comment that, although burlap may be all right on regular squeeze rolls, it is not suitable for finishing rolls.

The next question was one of using split rods between the size box and the cylinder. One man stated that this causes a difference in the moisture content of the yarn, amounting sometimes to as much as 4½%. The upper sheet, he remarked, contains more moisture than the lower sheet, and it is his belief that the extra moisture in the upper sheet is the cause of mildew. Another member stated that he splits his yarns in this manner but that he has never noticed any difference in moisture content. He uses acid in every batch of size to overcome mildew. A member who declared that he has made a comprehensive survey of slashers in about 100 mills remarked that he believes the relative moisture content in the upper and lower sheets is of no consequence—that rather it is a question of the moisture in the whole sheet. He believes strongly in the desirability of using split rods.

In order to regulate the amount of waste resulting from some of the section beams running out more quickly than others, one speaker recommended placing additional weight on the short beams in order to stretch out the



yarn. No objection was raised to this practice and its effect on the weaving was not given consideration. Objection was raised, however, to placing too much weight on the squeeze rolls in an attempt to increase penetration, as this practice tends to flatten the yarn.

Causes of Loom Stoppage

The afternoon session was devoted to weave-room problems, and the first discussion of importance was on loom stoppages. One speaker remarked that 15 to 20% of his stoppages is due to imperfect slashing, although he added that his weaving efficiency on straight running time is 97% and that he has less than one stop per loom per hour. He laid the blame for these stoppages on crossed warps, soft warps, hard size, loose flanges, and rough flanges. The trouble occurs principally in his selvages, due to the warp riding up on the flanges, particularly in double-beam work. He stated that the remainder of his stoppages are due to bunches and cords, faulty operation of the looms, and weak ends. He stated that the last cause is responsible for 40% of the stoppages and is due to imperfect carding and spinning.

The discussion next turned to the matter of rest periods for the weavers. One speaker described a red-and-green-light system which is in use at his mill. Every half hour the light is red for five minutes, during which period the weavers and battery hands are required to sit down and rest. This results in a 13.25% rest period for the entire week. He stated that his weavers are running from 48 to 68 looms, and that they report less fatigue under the new system, although previously they operated from 16 to 24 looms and were sitting down 10 to 15 minutes at a stretch. The looms continue to run during the rest periods, except where stoppage has occurred just as the lights turned red, in which case such looms are not started up until the lights turn green again. He claimed that this system has resulted in a gain in production of 2%, in conjunction with the adoption of the specialization plan.

Reports on loom speeds were as follows: On dobby work, rayon warp and filling, 40-in. looms, —150 picks per minute; on broadcloth, 40-in. looms, 20 and 25 harness, —160 picks; on the same work using plain automatics, —165 picks; on rayon, using jacquard looms, —140 picks; on sateens, rayon warp, 40-in. looms, —150 picks; on rayon warp and cotton filling, 8 harness, —170 picks; on voile, 40-in. looms, —160 picks; on cotton warp and rayon filling, with a twist of 35 turns per inch, —145 picks.

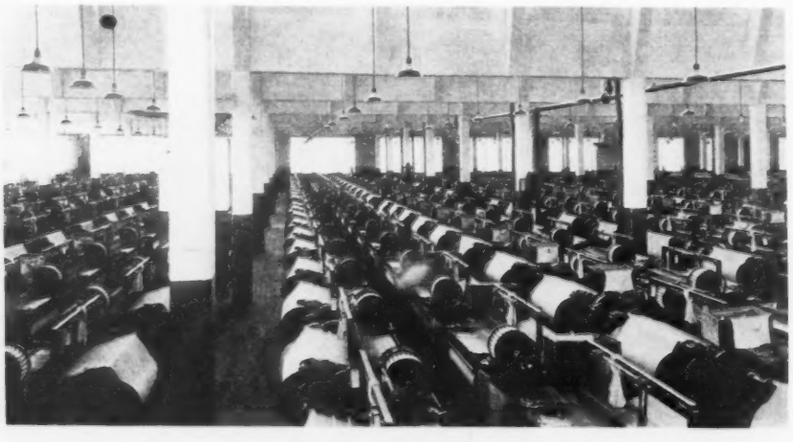
In considering the cause of thick and thin places in the fabric, it was recommended that a dead or stationary whip roll be used. One member remarked that on box-loom fabrics and other cloths of heavy construction he is using a stationary whip roll without springs and running his looms at the rate of 200 picks per minute. On light goods he stated that he uses a vibrator. The point was brought out that this practice can be adopted for any make of loom. One of the principal advantages of the dead roll was stated to be that it holds a more even tension on the yarn because it does not move back and forth with the beat of the lay.

The very vital subject of looms per weaver was next discussed. One speaker made the point that 300 to 350 loom stops is a day's work, and that if that number of stops occurs on ten looms it is a ten-loom job, and that if it occurs on 100 looms it is a 100-loom job. Reports were as follows: 20 looms on colored shirtings; 40 looms on 40-in. cloth, 38 looms on 54-in. cloth, 32 looms on 69-in. cloth, 28 looms on 90-in. cloth, 24 looms on 100-in. cloth, 36 looms on 88 x 140 sateens, 24 looms on 94 x 160 sateens running 156 picks per minute, 12 looms on 128 x 64 broadcloths, 12 looms on 144 x 72 broadcloth, 12 looms on 128 x 44 broadcloth with 6 colors to a warp. In practically every case the speakers stated that battery hands were used. The concensus of opinion seemed to be that it is best for the looms assigned to one weaver to be distributed over two alleys in order that the weavers may move around in a continuous circle.

The question of eliminating "tear-drops" from rayon fabrics was mentioned, and one speaker suggested that these might be overcome by timing the loom properly, setting the harness right, putting additional weight on the let-off, and taking suitable precautions in sizing.

The question of shiners was raised, and it was pointed out that one cause of these defects is in attempting to stretch the fabric in finishing beyond its loom width. Other causes mentioned were excessive weighting of the swifts in winding, rough handling by the winder girls in tying knots, and the placing of knots on the outside of the traverse so that the rayon catches as it is taken off.

The final discussion of the meeting revolved around the question of suitable temples for use in weaving rayon. It was suggested that the spiral rubber-covered temples eliminate any possibility of cutting. One speaker stated that he had obtained better results from the smooth temple as compared with the corrugated, although in some cases he has found that the smooth temple does not hold the cloth to width. Another speaker remarked that on some of his looms weaving plain rayon warps with cotton filling he has never used temples of any sort.



S.T.A. Carders Discuss Problems

CONSIDERATION of the advantages of one process picking and a general discussion of manufacturing problems arising in the preparatory processes of the cotton mill, featured the spring meeting of the Carders' Division of the Southern Textile Association which was held in the Y. M. C. A. Auditorium at Clemson College, S. C., March 21. J. O. Corn, superintendent, Pacific Mills, Columbia, S. C., chairman of the division, presided over the meeting which was one of the most enthusiastic in the history of the association and attended by approximaetly 185 members and visitors.

In an address of welcome at the opening of the meeting, Dr. E. W. Sikes, president of Clemson College, warned the southern cotton manufacturers against repeating the mistakes of New England and Great Britain in the future development of the industry. He looked with approval upon the time when there will be a general disintegration of company-owned mill villages in the South and when textile employes will own their homes.

Variation in Raw Stock Moisture

Reports from several mills where cotton is checked for regain in the unopened bales showed that the moisture content of raw stock before going to the opening room varies from 6% to as high as 13%. L. P. Duncan, superintendent, Inman (S. C.) Mills, found that one lot of 16 bales of local cotton varied in moisture content from 6½% to 9%, while Marshall Dilling, superintendent, A. M. Smyre Mfg. Co., Gastonia, N. C., had discovered that irrigated cotton from Southwest Texas, which is supposed to be unusually dry, contained more than 7% moisture.

Only two mills represented were reported as having conditioned picker rooms, but in these the moisture content of picker laps was said to be fairly constant at about 8%. Chairman Corn presented the results of tests which showed, however, that even under controlled conditions a considerable variation in the moisture content of picker laps, card sliver and drawing sliver occurs. Taking cotton from bales that ranged from 5.75% to 9.25% in moisture content, he found that by the time the stock came from the drawing frames there would be a variation of approximately 1% in moisture content of the sliver in spite of the fact that automatic humidity controls were used in the card room.

An attachment for pickers has been devised, according to Mr. Dilling, which releases the friction immediately after the machine knocks off and prevents stretching the end of the picker lap. W. D. Stillwell, overseer carding, Aragon-Baldwin Cotton Mills, Whitmire, S. C., said that with settings of ¼ in. on the Kirschner beater and ⅜ in. on blade beater of the one-process picker, it was found practicable to increase beater speed from 900 to 1,370 to obtain 41 beats per inch, which was the same as on the two-process picking. The one-process picker was said to turn out a much evener lap than the two and three processes and the overseer of a mill which weighs at least one lap yard by yard every week reported an extreme variation in weight of only one ounce per yard.

Better cleaning systems were said to have enabled some plants to run lower grades of cotton in the production of the same product that had required higher quality cotton, but under these conditions it was not practicable to increase the production of each card. Where additional cleaning equipment was installed and the grade of the cotton remained unchanged, it has been possible to increase the production of the cards from 10 to 20 lb. per day per machine.

Straight-Wire Card Clothing

In one mill operating 120 cards, straight-wire clothing was installed on 14 cards and, in comparison with other card clothing, straight was said to be giving the most satisfactory results. During the eight months in which the straight-wire has been running in this particular plant it has been found necessary to grind the above 14 cards only once a month, running day and night on 1 in. cotton, and carding 135 lb. each, per 10-hour day. The usual practice on straight-wire clothing consisted of stripping once a week for the cylinder, and two or three times a week for the doffer.

Light grinding was recommended in the case of straight wire clothing, as the fillets are easily bruised and damaged clothing can be repaired only with difficulty. W. R. Connelly, overseer carding and spinning, Pacific Mills, Columbia, S. C., was of the opinion that carding with straight-wire clothing was as good as with kneed-wire but no better.

While no difference in the appearance of the woven goods could be detected, E. G. Waites, overseer carding,

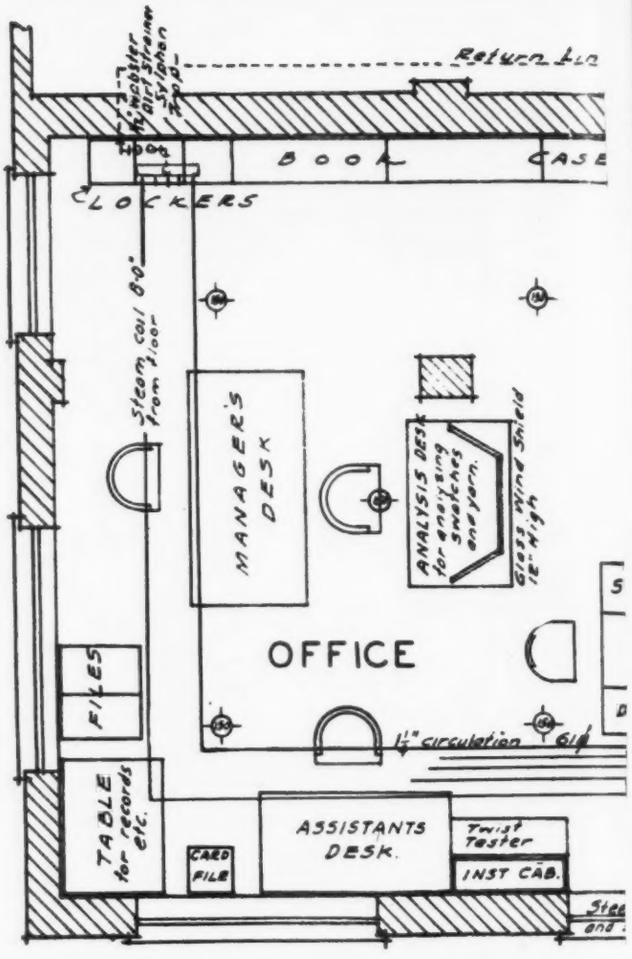
(Continued on page 89)

The Textile-Mill Laboratory Has Come to Stay

By R. H. Adams

Callaway Mills, LaGrange, Ga.

MR. ADAMS presented this paper at meeting of Committee D-13 of the American Society for Testing Materials, held at Charlotte, N. C., March 13 and 14.



Central Testing Department of Callaway Mills, LaGrange, Ga.—A complete layout for handling many mill problems

BEFORE the establishment of the textile laboratory, practically all material was produced against specifications supplied either by the purchaser or developed solely and expensively for standard production through bitter experience. Specifications from the purchaser were generally limited, and still are, to performance factors. For instance, it was specified that the strength must be so much in one direction, and that the burst must be so much in either direction. Usually it was known for what job the material was designed. But without means for research and testing, it happened many times that in meeting the specifications a great deal of costly work was done which ranked simply as a dead loss, before the proper manufacturing conditions were located through the rule-of-thumb method which most mills followed.

Source of Immediate Profit

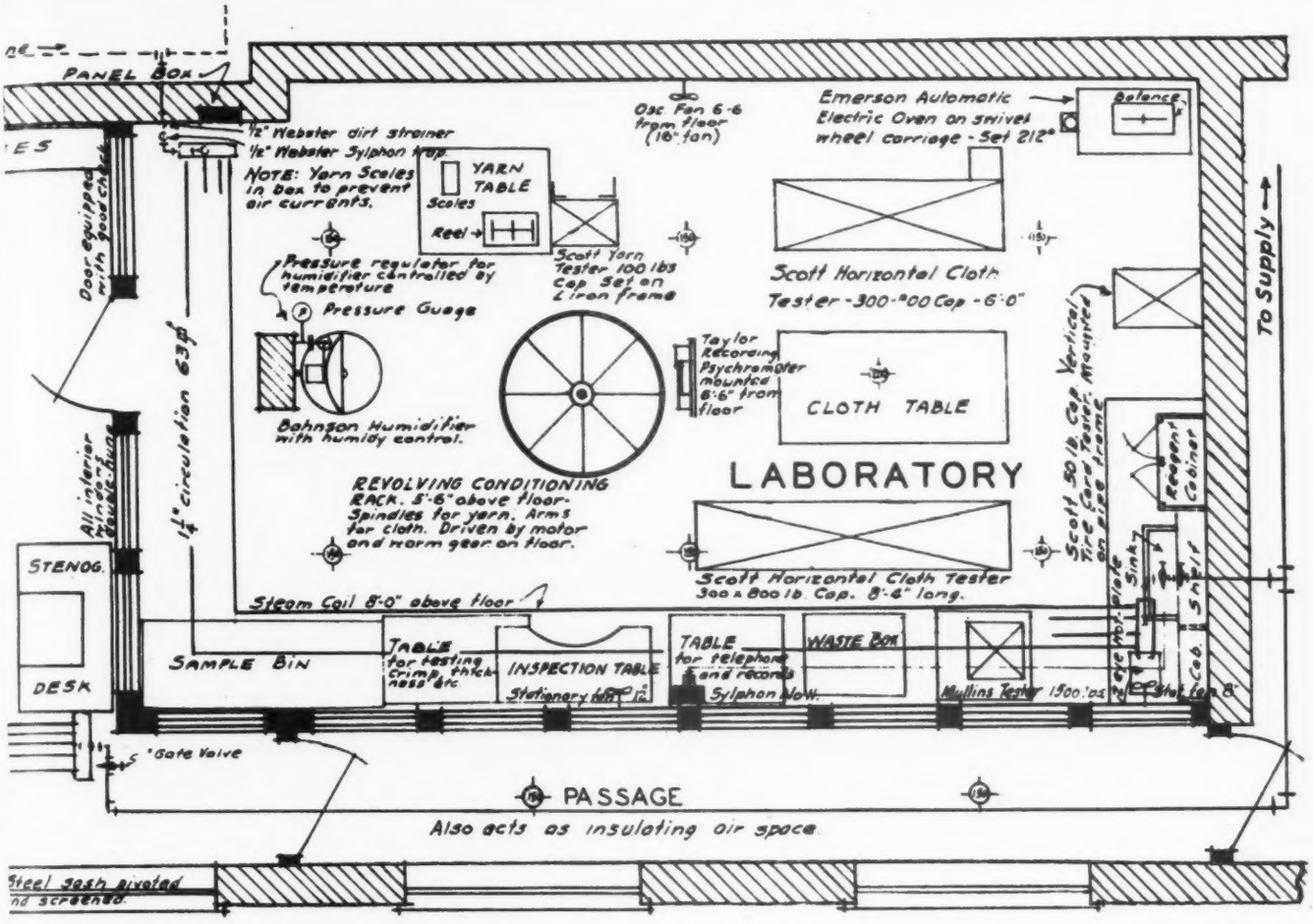
With the establishment of the textile laboratory, the necessity for this crude method of solving problems was eliminated. The research specialist in charge of the laboratory of today is a scientist in the textile field. With the equipment at his command, he is able not only to work out the tensile strength of the individual yarn or fabric, but is able to calculate the tensile strength necessary to meet practically any specified job. Through his ability to specify raw stock, method of spinning, method of weaving, and finish, he is a source of immediate profit to his organization.

The results of the first textile laboratory units were received with a doubtful enthusiasm by the mill executives. The fact that these results were reached with the aid of instruments, and without using a bale or two of cotton beforehand, made them seem unreal. As, however, case after case proved the rightness of the calculations, men who had originally opposed the idea became its strongest supporters; so that today wherever a mill has a testing laboratory in its organization or at its command, the manufacturing group is only too glad to submit its problems to the laboratory, knowing full well that these will be solved promptly and as economicaly as possible.

Not only does the textile research specialist assist his organization through calculating methods for new problems, but he also proved of great value through constantly studying, searching, and testing to find better and more economical means of producing the standard fabric of his organization on a basis of higher quality and lower cost.

Three Necessities

For the mill just establishing its own research and testing laboratory three things are necessary. A skilled textile research specialist, who is acquainted with the scientific side of textiles as well as with mill machinery and its manipulation, should be selected for the work. He must be tactful, as he will be brought into close relations with foremen and superintendents, and must be able to get over to them his understanding of their problem and his desire to assist them in solving it. His work shop, the laboratory, must be equipped with the necessary machinery and instruments to do his job. The


PANEL BOX
½" Webster dirt strainer
½" Webster Sylphon trap
NOTE: Yarn Scales in box to prevent air currents.
YARN TABLE
Scales
Reel
Osc Fan 6-6 from floor (16" fan)
Emerson Automatic Electric Oven on swivel wheel carriage - Set 212°
Balance
To Supply
Pressure regulator for humidifier controlled by temperature
Pressure Guage
Scott Yarn Tester 100 lbs Cap Set on L iron frame
Scott Horizontal Cloth Tester - 300-900 Cap - 6'0"
Taylor Recording Psychrometer mounted 6'6" from floor
CLOTH TABLE
Bahnson Humidifier with humidy control.
14" circulation 63 gal
LABORATORY
REVOLVING CONDITIONING RACK. 5'6" above floor. Spindles for yarn. Arms for cloth. Driven by motor and worm gear on floor.
Scott Horizontal Cloth Tester 300 & 800 lb Cap. 8'4" long.
Scott 50 lb Cap Vertical Tire Cord Tester, Mounted on Iron frame
Reagent Cabinet
Sink
Steam Coil 8'0" above floor
STENOG.
DESK
SAMPLE BIN
TABLE for testing crimp, thickness etc
INSPECTION TABLE
Stationery Rack 12"
TABLE for telephone and records
Sylphon No 11
WASTE BOX
Mullins Tester 1900 lbs
Gate Valve
PASSAGE
Also acts as insulating air space
Steel sash pivoted and screened

Equipment not shown on plan includes 1 Erinmyer flask, 6 extraction tubes, 2 cool water condensers, 1 torsion balance scales, 1 even balance scales, 1 Suter dissecting glass, 1 Suter twist tester, 1 old type twist tester, 1 Bausch & Lomb microscope, 1 Randell Stickney micrometer, 1 Universal yarn assorting machine, 1 improved Universal assorting balance, 1 Triplex thread counter, 1 pick glass (1 in. gage), 1 pick counter (1½ in. gage), 1 reversible magnifying glass, 1 inspection box for colored fabrics, 1 inspection plate, 1 pocket microscope No. 40, 1 4x4 in. steel template, 1 2x2 in. steel die with mall, 1 3x3 in. steel die with mall, 1 Henry Baer cording machine, 1 torsion balance box, 1 dessicator, 1 new balance scales, 1 auxiliary motor, 1 Marchant calculating machine, 1 12 in. typewriter. The pipe-line at right is equipped with liquid transmission regitherm, Sylphon No. 11 with 1 in. valve and 15 ft. flexible tubing, set for 72° F.; also 1 in. gate valve.

most thoroughly trained man in a scientific field is helpless without his equipment. Finally, the laboratory should not be bound by ordinary rules. Much of its work is in exploring new fields and meeting and solving new problems; therefore, it must set up its own rules of operating to a very great extent.

In developing the routine work of a textile-testing laboratory there are three important questions to consider; namely, physical, analytical, and chemical.

The physical question deals with the mechanical properties of the manufactured products, such as the determination of tensile strength, stretch, and elongation; the effect of twist upon strength and its relation to proper tension in weaving; the absorbing qualities of cotton of different kinds; the moisture regain of different fabrics in process under the same conditions; and the action of moisture on yarns and fabrics.

The analytical process should be organized in such way that the one in charge of a laboratory may take any sample received for duplication and analyze the weave and construction as to count, yarn numbers, weight, thickness, percentage of warp and filling, twist, and the raw material that it will take to produce a like fabric.

The chemical section should be equipped to handle any kind of finished materials that may be presented for extraction, dissection, or identification of fibers; for determining percentage of sizing compounds; for estimating finishing materials used; and for determining the reaction to acids, washing and sunlight.

Routine Testing

The laboratory equipped for routine testing of textile materials should be properly built, with plenty of room, abundant light, and with tables and machines so arranged as to save time and energy. Especially important is it that standard atmospheric conditions be provided, as all results of value depend on the conditions under which tests are made. Naturally the basic factors of relative humidity or cotton regain must be established under standard conditions before dependence can be placed upon the results of the tests enumerated above.

All materials of current production should be tested daily. They should be carried to the laboratory and thoroughly conditioned in an atmosphere which is as near to a standard as is possible to maintain; and after conditioning, the test should be made under the same conditions. The moisture should be checked, and records of the results should be made and compared with previous records. If this method is followed, a standard for all yarns and fabrics can be made, and any deviation

(Continued on page 46)

Spray Printing on Textiles

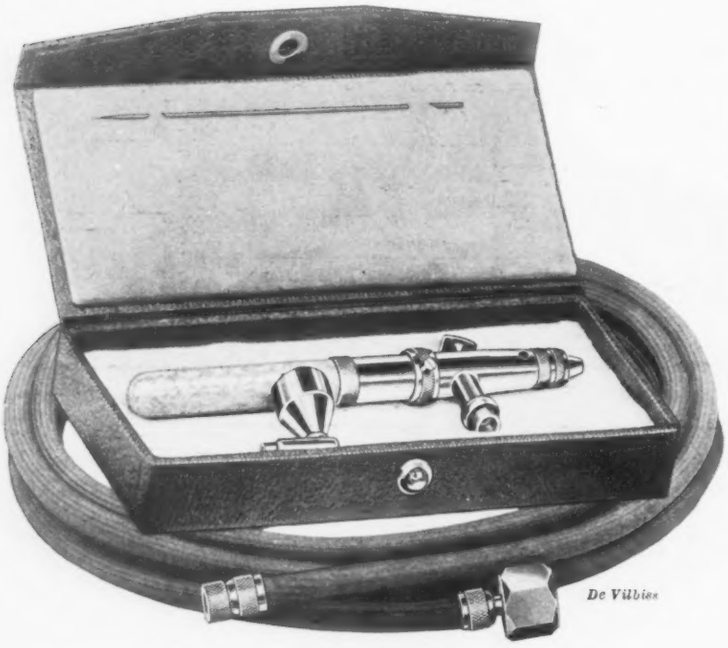


Fig. 1. Type A B Artist's Air Brush

A NEW PROCESS comparatively, spray printing has already evoked considerable interest in this country. Professor Macormac here describes the procedure, apparatus, and dyestuffs used in this latest method of textile printing.

By
Alfred R. Macormac, B. S.
Professor of Textile Chemistry, Clemson College Textile School

(All rights reserved by the author)

WHEN printing is mentioned in connection with textiles we are accustomed to visualize a huge plant representing an investment of hundreds of thousands of dollars. In the case of spray printing, however, the cost of equipment is very small. Of course, the production is measured by dozens of pieces instead of thousands of yards. In this newest form of printing on textiles every piece is done by hand, and the best pieces are made without a stencil, simply using the spray gun as the artist uses his brush.

The most important part of spray printing is the gun. In its essential parts a gun for spray printing is similar to the air or pressure guns that have been in use for many years for the painting of automobiles, the spraying of fruit trees, and many other similar uses.

Spray guns for textile work are of several types and sizes. The finest work is done with a gun about the size of the ordinary Eversharp pencil with an opening about as large as such a pencil has for the lead. The operator uses this gun just as an artist uses his brush. In fact the best examples of spray printing work compare favorably with oil paintings. Such a gun, called the Type AB artist's air brush, is shown in Fig. 1.

This artist's air brush will be found to be simpler and easier to handle than the larger guns. If a large surface must be covered, the larger guns, of course, save considerable time. However, in learning to manipulate the apparatus, it is an excellent idea to start with the air brush. A glass tube fitted into the cup of this gun gives a larger reservoir for the dye solution and also prevents the solution from spattering out if the nozzle clogs up. Glass jars may be used in place of the cup and will be perfectly safe.

The ordinary spray gun is somewhat larger. Several very good guns for general work are on the market. The Type AV spray gun (Fig. 2) is a good instrument for general purposes. This gun comes equipped with three types of caps. (See Fig. 3.) The veiling cap has an obliquely slotted veiling ring in the cap. The diameter of the nozzle opening in the front of the cap is larger than with the other caps. The spatter cap has a straight slotted spattering ring and the nozzle opening is smaller than that of the veiling cap. The misting cap contains no ring and has the smallest nozzle opening of all. All such caps are, of course, interchangeable. They are held in place by the aircap retaining nut. There is also shown a protector cap which may be used to protect the spray head when not in use. The ring-removing tool is used to remove the rings when necessary in cleaning.

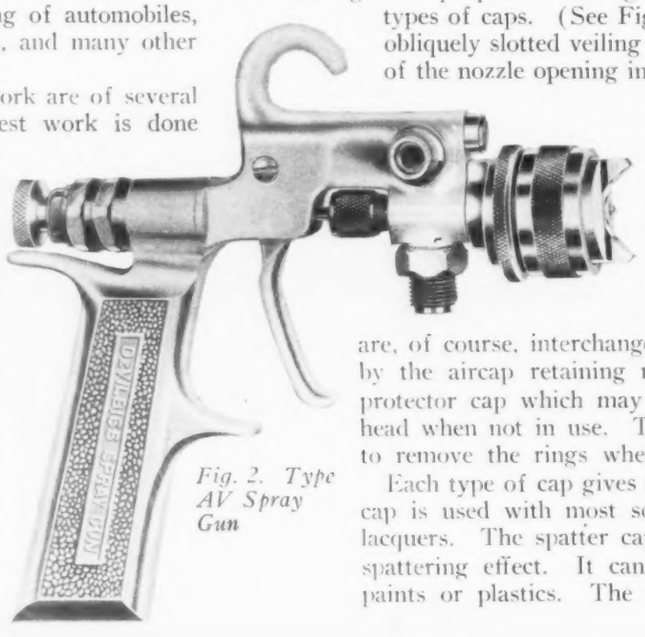


Fig. 2. Type AV Spray Gun

Each type of cap gives a different effect. The veiling cap is used with most solutions similar to the veiling lacquers. The spatter cap as the name implies gives a spattering effect. It cannot be used with the heavier paints or plastics. The veiling cap gives the smallest

and finest spray. It is used for the most delicate work. It is especially adapted for fine-line work and blending. This is the cap generally used in textile printing.

Manipulation of the Gun

In setting up the gun the air-pressure line is connected with the inlet on the side and the solution line is connected with the inlet below and in front of the trigger. Both these lines (as shown in Fig. 4) come from the pressure tank containing the solution. A third tube connects this tank with the air-pressure line. All three lines have regulating valves on them.

Upon the gun itself are other means of controlling the spray. Just behind the air-cap retaining nut is another nut that acts as a spreader-adjustment valve. This valve changes the form of the spray from circular to flat either vertically or horizontally. On the rear side of this nut is a scale. When the 0 of this scale coincides with the index mark on the left side of the gun, the spray is circular. In general a flattened spray is best with the index mark at about 10. The screw nut at the rear of the gun regulates the amount of fluid flow at the gun nozzle. Pressure on the trigger starts the spray.

For most work where only a few pieces are done at a time or it is frequently necessary to change the color, a large solution tank is not used. Smaller tanks are made holding about a pint of solution. With these containers the solution inlet beneath the gun is fastened directly to the top of the container by means of a coupling nut. The air connection is made by a bent air hose with two coupling nuts. One is screwed on the nipple on top of the solution pressure-regulator screw and the other to the air nipple in the spray gun.

There is a certain skill in the actual operation of the spray gun that is only acquired by practice. It is advisable to regulate the air pressure and solution volume by spraying on cardboard. The spray should not contain so much solution that the liquid runs off the material. Insufficient air pressure will result in the formation of small beads or drops. Too high an air pressure will blow out the center of the spray so that it is thin. The adjustments will depend on the viscosity of the solution. When spraying a large surface the gun should be held about ten inches from the surface sprayed and moved across it with a steady, even stroke. The gun body must be kept perpendicular to the surface at all points of the stroke. The spray should be just heavy enough to completely wet the goods, but not so heavy that the liquid runs or the goods sag. In covering a large surface the manipulation of the trigger is the most important factor. The spray should be allowed to feather out or become thinner both at the end and the beginning of each stroke. This is best done by a gradual pressure on the trigger at the beginning of the stroke and a gradual releasing of the pressure at the end. The stroke should be made as long as is possible with comfort.

Most directions require that the goods be pinned horizontally on a table; we have had very good success, however, in placing the goods on a wall and spraying them in this position. The goods should be evenly stretched and the pins used should be small headed. Thumb tacks are useless, as each tack leaves a round spot uncolored. Spraying the goods on a wall is frequently much easier than in a horizontal position; and if the spray is properly regulated, there is little danger of running.

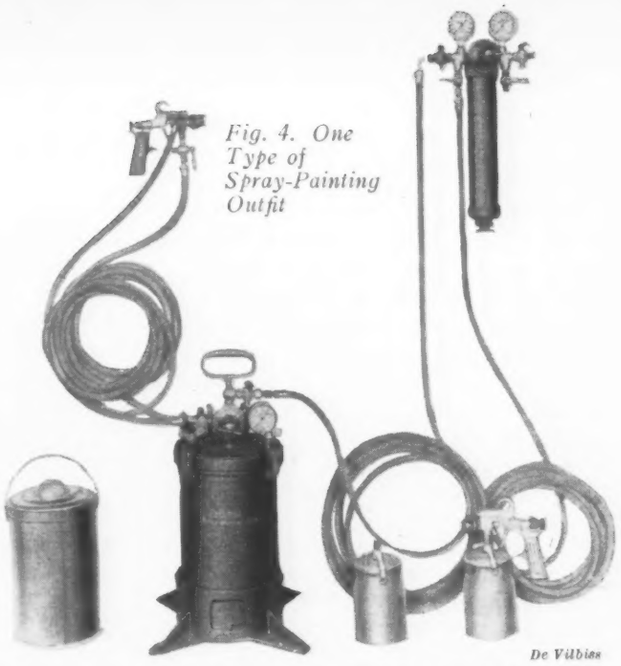


Fig. 4. One Type of Spray-Painting Outfit

Use of Stencils

The use of a stencil is, in general, advisable especially for the beginner. The stencil may be pinned on top of the cloth and then the whole surface sprayed. After the color has dried the first stencil is taken off, another is put in its place, and the fabric is sprayed again. By the use of several stencils two, three, four, or more colors may be put on just as in the usual textile printing. Resist and discharge printing may also be done.

Stencils for any designs that will probably be used for any length of time should be of metal. Many stencils will only be in use a short time. These can be made of cardboard, thus cutting down on this rather expensixe item. For such a stencil it is a simple problem to draw the design on the white cardboard and cut it out with a sharp knife or razor blade. A hard non-absorbent cardboard should be used.

Preparation of the Goods

Since in spray printing the use of pressure to force penetration of the dye is impossible, the goods should be in a condition to absorb and hold the dye as well as possible. Cotton should be thoroughly kier boiled using two boils and then bleached with sodium hypochlorite. If basic colors are used, a tannin-tartar-emetic mordant will increase the fastness. Wool should be scoured, using a little ammonia in the last water. Chlorination or a treatment with acid will increase its affinity for dyes. Silk should be boiled off and scoured. Rayon should be lightly scoured to remove all traces of grease or oil. All goods must be sprayed in a dry condition. Some very fine work has been done on silk or rayon plush with a cotton back. The pile absorbs dye solution easily

Fig. 3. Spray Head and Caps

and quickly. This spray printing has a depth and body that makes a far better appearance than similar work done on flat goods.

Dyestuff Solutions

No hard and fast rules can be laid down as to the composition of the dyestuff solution. Basic dyes are probably used more than any other, but all basic dyes will not work equally well. Acid and vat colors are used to some extent. Very few of the direct or sulfur dyes are used. Several dyestuff manufacturers are selling specially prepared dyes or solutions ready for immediate use in the spray gun. These solutions are of course rather expensive, but they work very successfully. In the final analysis they are nowhere near as expensive as the first cost would indicate, because there is no waste whatsoever. A few cubic centimeters of the solution will cover a square foot or more of cloth.

In making up solutions for spray printing some more volatile solvent than water must be used. It is also essential that the surface tension of the liquid be low, so that the solution will be quickly absorbed by the goods. Acetic acid, acetone, alcohol, and other organic solvents can be used for various dyes. The dye must be completely soluble as any particles—even the smallest—may stop up the spray gun. This is absolutely ruinous when using the small artist's gun with the cup. Any stoppage forces the air back and out of the small cup with the result that it is spattered out and spots the goods, thus spoiling the whole piece. Regardless of the extra trouble, it is advisable to strain all solutions.

Whenever possible some component of the solution should act as a fixative to fix the dyestuff on the fiber. Tannic acid is frequently used for this purpose with basic colors. Sometimes it is possible to add a slight amount of a gum or thickener to the solution to prevent it from running on the cloth. The viscosity must not be increased to such an extent that the solution no longer flows freely through the gun under the pressure used. It must also atomize completely.

Spraying Metallic Powders

For special types of work a decidedly viscous solution is sometimes necessary. Several years ago while the author was employed as chemist and dyer for a cotton-finishing concern he was called upon to do considerable work on a special problem in spray printing. This problem was the application of silver and gold metallic powders to heavily starched net goods. The gun used was a large paint spray gun. Attempts were first made to use pastes of starches, gum arabic, and similar materials. These attempts did not meet with success since a paste thick enough to keep the metallic powders in suspension was too thick to use in the gun. These pastes also had the disadvantage of drying very slowly. The best results were obtained by the use of a cellulose ester dissolved in amyl acetate. The process was never used on a commercial scale on account of the expense involved.

Fastness of Results

Spray-printed material is, as a general rule, not finished in any way after printing. The author has found that a steaming of from ten to fifteen minutes in an ager adds remarkably to the fastness to washing. In fact, spray-printed material thus treated is as fast as, if not faster than, block and machine prints. Many colors will stand a boiling soap treatment.

Interest in this newest method of textile printing is growing. With the use of stencils excellent work can be done by almost anyone. With increasing skill the possibilities are astonishing. The finest products are comparable with oil paintings.

Dr. Mullin has in his possession at the Textile School of Clemson College examples of work done by students in the college and also some remarkable examples made by Louis Oudrey, a Parisian artist of international renown. Anyone interested is always welcome at the college. The Clemson booth at the Southern Textile Show in Greenville, S. C., next October will have on exhibition examples of this type of work.

The Textile-Mill Laboratory

(*Continued from page 43*)

from this at any time can be promptly corrected by checking closely with the mill.

Special yarns and fabrics being developed against specifications should be tested in every stage of development and should be checked carefully for weight, tensile strength, and construction. Every detail should be recorded and the results checked with specifications. Tensile strength should be kept well above the margin required by specifications.

As to the methods of testing, there are many in use by consumers of fabrics. Those devised and published, however, by the A.S.T.M. are the best to follow. It is the opinion of the writer that the testing of woven materials, especially cotton fabrics, may be confined to two methods; viz., the 1½ in. strip method and the 4x6 in. grab method. Also, either of two conditions of moisture may be employed, the one at bone dry and the other at a definite regain, as 6½%. The idea of standardizing both these methods is suggested for the reason that most fabrics are now tested in a general way by either one or the other. However, it is the writer's opinion that the 4x6 in. grab method at 6½% regain is more suitable for all woven fabrics, since it gives a true relation between the warp and filling strength. It is also more easily and quickly applied.

The laboratory has come to stay in the textile industry; and to intelligently take care of our present needs, as well as to plan for the future, we must provide such an agency as certainly and naturally as we would any other part of our manufacturing equipment.

The attached diagram is a suggested plan for a laboratory, showing the minimum floor space and the correct placement of equipment. This particular laboratory has been in operation for about four years, and is equipped to handle between 40,000 and 50,000 samples per year. The nature of its location and construction has enabled us to carry an average temperature for four years of 78.29° F., and to maintain an atmospheric condition as near standard as is possible in a southern climate.

Under all kinds of weather conditions the light is evenly distributed. The equipment is conveniently placed, and includes a revolving conditioning rack with 100 spindles for yarn, and space for about 100 half-yard full-width cloth samples. It is driven by a ¼-hp. motor and makes about two revolutions per minute. The room is provided with positive humidity control, and has a complete artificial circulation to keep down the stratification of moisture as far as possible. This laboratory has proved to be thoroughly practical for routine testing and the plan is offered for the consideration of any who may be interested in the general subject.

New Tariff Bill, Passed by Senate, Goes to Conference Committee

By K. K. Hoyt

of TEXTILE WORLD'S *Washington Office*

WITH the passage of the tariff bill through the Senate last Monday, rate revision is almost in its final stages. Measured in terms of complete circuits of the commodity schedules, eight laps have now been run with at least three more to follow. The next step is to place the bill before a conference committee between House and Senate. This powerful group will adjust the many disagreements between House and Senate rates, subject to final vote in both wings of the Capitol.

In general, there is less doubt as to the bill's final passage than has been voiced at some of the more critical stages of tariff making. There still are such obstacles to be met as a House coalition of Democrats and low-tariff Republicans or a protracted debate in either chamber on the debenture and the flexible provisions. Beyond that, there is the Presidential veto which some observers still fear.

Textile Rates in Final Form

Whatever happens to the rest of the bill, there is nothing foreseen, short of total failure, which can materially damage the textile schedules. Manufacturers can begin to think how they will operate on the new basis. As has been often repeated, tariff revision started out with the avowed purpose of aiding the textile and farming industries which seemed to need all the tariff help they could get. So far, Congressional action has been shaped closely to this central theme, barring some departures. Thus, textiles have been given good treatment except where farm interests took precedence on the two important issues of wool and long-staple cotton.

Each of the five textile schedules—cotton, hemp-flax-jute, wool, silk, and the new rayon classification—has received substantial support. The whole rate structure on yarns, fabrics, and manufactures thereof has been given a general increase, small in individual percentages but large in the protective total.

Though political trading doubtless has occurred on many items, new textile rates seem to exhibit a sincere effort on the part of Congress to accord reasonable tariff aid where it is most needed to stem the tide of imports. Decreases seldom were made except where either domestic production or import volume have been negligible under the existing scale.

Start with cotton. In this schedule, thread, printed and dyed cloth, blankets, shirts, clothing, rugs, rags, and several miscellaneous items have received rate raises running in the magnitude of 5% on the duties now being charged. Warp knit gloves took a reduction, but American production is approaching the vanishing point and had been denied aid by the tariff commission.

The flax-hemp-jute schedule saw the raw materials of flax and hemp given sharp increases with the hope of providing diversification crops for American farmers. Manufactures took compensatory duties on account of this increase. No tariff was levied on jute and jute butts, now duty free, though the measure was several times introduced.

A number of significant raises permeate the silk and rayon paragraphs but they are not sensational and have been reported before. The new rayon schedule remains an outstanding development of the bill recognizing the progress in synthetic textiles.

The basic rate on clothing wool goes from 31 to 34c per pound without breaking at 44s and assessing coarser grades at 24c as at first intelligently suggested even by the wool growers, till sheep men from a small region registered complaint. The industry can absorb a 3c raise on raw wool. What hurts is the increase on wool rags from 7½ to 18c per pound, on shoddy from 16 to 24c, and proportionally on other waste items, a direct blow to the carded woolen industry. Most of the upward revisions through the wool schedule were to compensate for these changes, but even the total stoppage of imports can not make up for such a large and direct increase in raw material prices. Since the Senate waste rates are higher than those of the House, wool waste will be one of the subjects to be fought out in committee with a possible compromise toward a lower level.

Long Staple Cotton

The Senate's decision to levy staple cotton 1⅛ in. long and over, at 7c per pound came as a distinct surprise, though TEXTILE WORLD has been predicting it for the last year. As a farm relief bill, a tariff without some aid to the great southern cotton industry would be a lopsided affair. Cotton, it is generally conceded, can receive no tariff benefit except through long staple, if on that. Now that the duty is applied, and if it hangs on through committee, the next question is, can America grow it or will thread, tire, and fine goods manufacturers have to continue their imports over the tariff wall? Advocates of the duty seem to feel that the nation can grow long staple and that the price premium superimposed by tariff aid is going to have some stimulating effects through the whole range of cotton marketing.

The effect of foreign reprisals has not been thought about much yet. From the present outlook, none of the users of long staple seem under any great hardship through the duty. Tariff protection of the items concerned is liberal. Added is the recent proviso that all goods imported under the cotton schedule shall pay 10c per pound on the long staple cotton contained therein.

This brief summary gives a bird's-eye view of the textile tariff changes, not to forget the sundries schedule increases on lace and embroideries. Now comes a lull in tariff making while the conference committee fights through the ninth circuit of the entire bill leaving the Senate to work on other matters of public interest long delayed by the ponderous operation of legislative procedure.

Determining Oil in Rayon

OIL may come with rayon under two conditions, either as that incorporated with the spinning solution to produce low-luster yarns or that added to the spun fibers to protect the fibers and to facilitate their handling, winding, or knitting. The former is a minor use from the quantity standpoint. This oil is said to be impossible of complete removal. The second use is considerably more important from the frequency with which it is met. The problem of removing it in analysis is complicated by the fact that "oiling solutions" are of variable nature and amount.

Such oiling solutions may contain: (1) saponifiable animal or vegetable oils, like neatsfoot, red, olive, or coconut oils; (2) unsaponifiable hydrocarbon or petroleum oils, so-called mineral oils; (3) both classes, either as natural oils or solubilized by sulfonation, by use of emulsifying agents like alkalis, soaps or special organic compounds. In addition to oils and fats these solutions may also contain soaps, waxes, liquid softeners, and various other ingredients. In analyzing yarns for these mixtures, variation in the process must often be made from that required for simple oils. This description, however, will include only the procedure for oils. The quantity of oiling emulsion found may vary from zero to several per cent, depending upon the use intended for the yarn.

Our Questions and Answers Department recently received the following inquiry from a reader: "Kindly explain the ether process for extracting oil from rayon." The methods outlined in the accompanying article, which was written to supply this information, are equally applicable for determining the oil content of other materials.

While oils may be determined by scouring processes using soaps, the most convenient way is to employ extraction methods with organic liquids or solvents. The extraction process may be carried out in either of two general ways. It may be done by hand in open containers, like enamel dishes or glass beakers, or in special assemblies of apparatus called "oil-extraction apparatus."

Determining Oil by Extraction

The open-container method of extraction is rapid, accurate, and economical. It is well suited to the needs of mills and houses which do not possess laboratories, or assistants well trained in the care and use of expensive and fragile glass apparatus, and it finds good use also in plants which do possess both. In carrying out an analysis by this method carefully weigh out two samples of the material to be tested, at one sitting. One sample is bone-dried in a hot oven at a temperature of 222° F., the oven best having a circulating air current. When dry, the sample (in the absence of a special conditioning oven provided with a balance) is removed from the oven, cooled in a desiccator just long enough to reach room temperature and reweighed. The loss in weight is figured as "moisture." The size of this sample should vary with the accuracy of the balance used to weigh it.

The second sample, which can well be a large one of 30 to 120 grams, is used for the emulsion extraction. It is put, air dried, into the open container, well covered with the solvent being used, the container warmed on a heat source containing no fire hazard, and the sample stirred with a glass or wooden rod from time to time. After 10 to 15 min. the sample is removed, very thoroughly squeezed by hand, allowing the liquor removed to run back into the container. The sample is again extracted in more solvent in another container, under similar conditions. This is repeated as many times as may be necessary. Usually for simple oils, three extractions are sufficient. The first portions of solvent used may be put on a hot plate to evaporate while the subsequent extractions are being made. The later portions may then be added to the first container. When all of the solvent has been evaporated to a very low volume the solution is transferred to a small, dry, weighed container; the first dish is washed clean of oil with repeated small quantities of the solvent; the washings are put into the small weighed dish with the rest of the solution; and the whole of the solution is evaporated to dryness. The residue is bone-dried and weighed. The gain in weight is called "oil." Should the freshly extracted portions of the solutions be dirty with suspended, insoluble matter, the solution should be carefully filtered through filter paper, the latter washed free of oil at the end of the filtering operation, and the washings added to the main portion of filtered solution. Evaporation then continues as before.

The second method of extracting the oil by means of organic solvents involves the use of special assemblies of apparatus called oil-extraction apparatus. These are usually named after the originator, such as the Soxhlet or Wiley extraction apparatus.

Special Extraction Apparatus

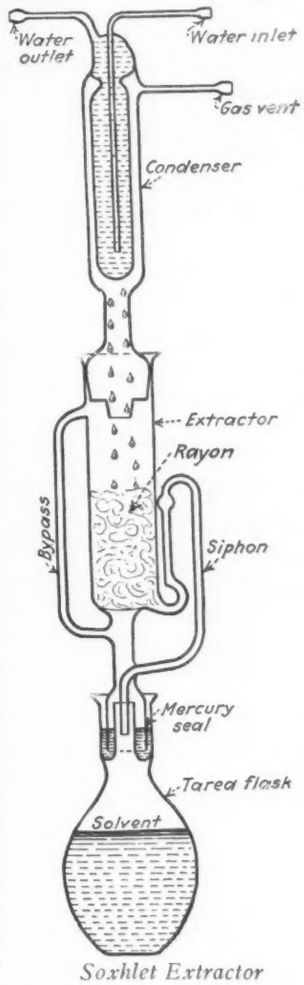
The Soxhlet apparatus requires the following parts for its use: (1) a special extraction flask to receive, hold, and boil the solvent and the returning solution. (2) the extractor itself, for holding the sample and the condensed liquor doing the dissolving of the oil, and for delivering the solution back to the flask; (3) a paper "thimble" for the holding and handling of the sample; this thimble must be oil-free and of proper size to fit into the extractor easily; (4) a water-cooled condenser, connected by rubber tubing to the water tap and also to the waste drain; (5) a mechanical support for the assembled apparatus commonly called a "ringstand"; (6) a source of heat, which may be a gas burner, an electric stove or hot plate; and (7) a solvent liquid to do the extracting of the oil.

The Soxhlet extractor can be purchased in a variety of sizes holding from about one to six ounces of material to be extracted. For each size used, there must also be purchased at least one complete accessory outfit consisting of flask, thimble, condenser, and tubing, all of the proper size to fit the given extractor. This outfit may be obtained in several models, of ordinary or heat-resistant

glass, as single units or as a battery of units. It is available with plain, mercury-sealed, and ground-glass joints.

Use of Soxhlet Apparatus

To determine the oil content by use of the Soxhlet apparatus the following procedure is necessary: (1) Weigh two or more samples of the material to be extracted. Bone-dry one sample in a hot air oven at 220° F.; compute its moisture content. From this moisture content figure the bone-dry weight of the other skein or samples. (2) Clean the extraction flask, bone-dry it, cool in a desiccator, and weigh accurately on an analytical balance. (3) Tightly fit the flask onto the lower end of the Soxhlet. (4) Fit the condenser to the top of the extractor. With the apparatus thus put together, blow down the end of the condenser to test the tightness of the fittings. If any air escapes, the joints must be made tighter. (5) Remove the condenser with its stopper from the top of the extractor. Place the sample in the thimble, and then insert the thimble into the extractor chamber so that no part of the sample is above the level of the top of the siphon tube. (6) With the loaded extractor joined to flask, set this unit upright on the table. Fill the extractor chamber with solvent up to the level of the siphon outlet until the liquid starts to siphon into the flask. Allow the chamber to empty into the flask. If the flask is large enough to hold two chambers-full of solvent, refill the chamber; if not, add three-fourths the original quantity. (7) Put this filled unit on the apparatus support, adjusting the height to allow for the heating elements, and clamp it securely (but allowing for a little expansion with heat). Observe that the bottom end of the extractor is not below the level of the liquid in the flask. Now insert the condenser into the top of the extractor, clamp securely into place, connect the condenser with the cooling water and with the waste outlet. (8) Heat the solvent in the flask to boiling. The vapors of the boiling liquid go up the end of the extractor, into the side delivery tube, into the chamber, and into the condenser. The cool surfaces of the condenser chill the vapors to liquid form, and the liquid drops back on the sample. Here it collects, dissolving the oil, and is more or less heated by the hot vapors which strike it on their way to the condenser from the flask, thereby hastening the dissolving of the oil. The height of the accumulating liquid in the Soxhlet chamber finally reaches the level of the top of the siphon outlet on the chamber. When this height has been passed the liquid with its dissolved oil runs back into the bottom flask. The boiling begins again shortly and the operation is repeated. The heating rate is adjusted until the chamber fills and empties about twelve to fifteen times an hour. The time of extraction varies from two to eight hours as the material may require.



Soxhlet Extractor

When the extraction is completed the chamber is allowed to almost fill with the condensed liquid and then the heating stopped. The flask is removed from the bottom of the extractor, the residual solvent in it is evaporated, the flask and oil residue in it are bone-dried in an oven, cooled in a dessicator, and reweighed accurately.

The final gross weight, minus the tare weight of the empty flask, gives a difference representing the amount of extractive. This weight multiplied by 100, and divided by the weight of the bone-dry sample started with, gives the percentage of extractive on a bone-dry, or moisture-free basis.

Solvents for Extraction

A final word should be said about the available solvents. There are various organic solvents which may be used. Some of these are dangerously inflammable—catching fire easily from free flames, red hot wires, electric sparks, or the arcs from improper switches. This group includes: (1) Petroleum ether or light gasolene. This is a good solvent for oils, fats, paraffin, rosin, etc., but is not suitable for soaps. This solvent is frequently found to be rich in tailings which do not evaporate rapidly at water bath temperature. It should be tested for this property, before use, by a trial evaporation. (2) Sulfuric, or ethyl ether. This solvent always contains a small percentage of grain or ethyl alcohol, but this percentage should not be too high (as in recovered ether) or the solvent characteristics will be altered for some purposes. In the simple extraction of emulsions from rayons, however, a reasonable quantity of alcohol may be a benefit, owing to its ability to dissolve soaps. Ether is a good oil solvent, having little action on soaps, such as may occur in soluble or Turkey red oils. (3) Alcohol (denatured). Alcohol is a solvent for water-soluble soaps, oxidized oil, and glycerin. (4) Acetone, free from water or the U.S.P. grade. This dissolves oils, some resins, little soap unless the water content is noticeable in the solvent.

There are also available several non-inflammable solvents. These solvents should have greater use in ordinary plants, and in plants where the insurance rates for testing laboratories, owing to the so-called "fire-hazard," are high. Among such valuable solvents are: (1) Carbon tetrachloride. This is a heavy, easily volatile liquid capable of dissolving oils, some waxes, soaps, and lime soaps in reasonable amounts. This is an ideal solvent for rayon-emulsion extractions because its range of solution action is so wide as to catch many of the ingredients in such emulsions which the other solvents would not of themselves touch. (2) Trichlor ethane. This solvent is somewhat similar to carbon tetrachloride in extractive properties.

All solvents should be of good grade and should be especially tested before use for the presence of non-volatile residues. If such residues are found to be in the solvent in any troublesome amount, the solvent should be redistilled, or the amounts of solvent used in an extraction should be carefully measured, and the quantity of residue which this volume contains should be subtracted from the final residue obtained from the rayon extraction.

Useful
Code System for Raw Stock
in Small Woolen Mills

By Herbert C. Roberts

THE small woolen mill has many advantages, and likewise many disadvantages, over its larger brother. In the smaller mill, the overhead is frequently lower than in the larger mill; but in the smaller mill the overhead is not specialized and we find the clerks in the office performing tasks which in the larger mill are generally performed by individual departments.

A small woolen mill, making a wide range of fabrics from an equally wide range of raw stocks, sometimes has considerable difficulty in keeping a record of these stocks so that accurate material-cost sheets can be easily computed. A flexible code system has often been the solution of the problem. The code system which the writer intends to outline herein was not designed primarily in order to keep various blends a secret, but was designed in order to simplify the superintendent's blend book, the stock sheets in the stock room, and the cost records in the office. It covers a wire range of fibers from various classes of wool through different qualities of rags and shoddies, and includes such miscellaneous fibers as flax, jute noils, and different grades of cotton.

Each code number is composed of four digits; and in the case of shoddy, a prefix letter is placed before the code number. If the stock is cotton, the letter "C" is used as a prefix. If the stock is a flax noil, the letter "F" is used.

Four Characteristics of Stock

Four physical properties usually determine the suitability of a given sample of wool for its use in a particular blend. The first and foremost of these is the fulling character of the stock. Therefore the first digit denotes the fulling character of the stock. These numbers run from 1 to 9; and, inasmuch as the fulling character of the stock is largely dependent upon the type of wool, we can begin by calling No. 1 of the first digit the stock which would, under normal conditions, give the best fulling results.

For example, a mill making a certain class of material finds that under normal conditions Texas wools have the most rapid fulling properties; therefore No. 1 of the first digit would denote the best fulling wool or Texas wool. If Cape wool is apparently the next-best fulling wool, No. 2 of the first digit would be reserved for Cape wools. Following Cape wools a mill might find that California wools, Australian wools, Territory wools, French-combed noils, Bradford-combed noils, card waste, and garnetted stock is the correct descending order according to the fulling properties of the stocks the mills use.

Following the fulling characteristics of the stock, the next important consideration is the staple and color of the stock. Therefore Nos. 0 to 9 of the second digit would be reserved for staples and color, and we might give the numbers of this digit the following meanings: 0, short white stock; 1, medium white stock; 2, long white stock; 3, medium stained wool; 4, long stained wool; 5, medium gray; 6, long gray; 7, short gray; 8, short red; and 9 short black. Naturally the two latter numbers would be confined to noils, card waste, and garnetted stocks.

The third characteristic property upon which the value of the wool is determined is the fineness of the stock. Thus we use the fineness of the stock for the third digit of our code system, and we might say that 0 is dead fine or blood, 1 is fine or $\frac{5}{8}$ to $\frac{7}{8}$, 2 is medium or half blood, 3 is coarse or quarter blood, and 4 is kempy stock.

The fourth quality upon which the value of the stock is based is its condition. Its rating in this respect depends upon whether the wool is scoured or greased, free from shive, seedy, carbonized and neutralized, pulled, carbonized but not neutralized, and dusted or not dusted. Therefore Nos. 0 to 9 of the fourth digit could be enumerated as follows: 0, very clear, free from shive, scoured; 1, scoured fairly clear from shive; 2, scoured but seedy; 3, carbonized and neutralized; 4, paint or tar clips; 5, pulled; 6, carbonized but not neutralized; 7, carbonized and neutralized but not dusted; 8, carbonized, neutralized, dusted; and 9, wool in the grease.

We have now defined the meaning of each of the digits which make our code numbers for woolen goods. The designations are listed for ready reference in Table I. Let us, therefore, take a few examples to see how this would work out.

Use of the Numbers

Our very best stock would carry a code number 1200. That is to say, in looking up the column from which we determine our first digit, we would find that this would be a Texas wool. Column 2 shows us that this would be long and white; column 3, that it would be dead fine; and column 4, that it would be very clear, free from shives, and scoured. Thus, when our superintendent makes up a blend and sends his requisition to the stock house, he would call for so many pounds of 1200 wool, rather than write out each time so many pounds of lot such-and-such a number, which he knows to be a high-quality 12-month Texas wool. Our stock room would keep a running inventory of all stocks of a similar quality; and therefore when the superindentent's

requisition reached the stock room, those in charge of the stock room would issue so many pounds of 1200 stock, and this would be deducted from the last balance on the running inventory card of 1200 stock.

Say, for example, that when this code system is introduced there are on hand 100 bags of lot 280, and that lot 280 is long, white, dead fine Texas wool free from shives. Let us, for example, say that this lot 280 costs $1.05 per pound. When lot 280 has been issued in sufficient quantities so that there are 30 bags on hand, the mill has an opportunity to pick up from three different wool dealers several small lots of the same quality wool at a price of $1 per pound. This might comprise a ten-bag lot, a five-bag lot, a fifteen-bag lot, and a twelve-bag lot. These could then be brought into the mill and placed in the same storage space as the remaining bags of lot 280, and the running inventory card 1200 would be extended by the total number of pounds of these four incoming lots. In the column on this card under "Remarks," notation could be made of the date of this purchase, the number of bags, and the dealers' lot numbers. The average cost of this lot would then be the cost of the remaining number of pounds of lot 280 at $1.05 per pound and the number of pounds purchased at $1.00 per pound.

From the manufacturing point of view the mill might be using fifteen different grades of wool; yet from a purchasing standpoint this stock might be composed of 35 or 40 different small lots which have been picked up at advantageous prices. Rather than keep a running inventory for this large number of lots, which from a manufacturing point of view represent only fifteen different types of wool, the various lots could be grouped under these fifteen different code numbers, two of which might be listed as follows: code No. 1521, a Texas wool, medium staple, gray in color, medium fine, and fairly clear from shives; and code No. 2111, a Cape wool, medium staple, white color, fine, and very free from shives. From a purchasing point of view, the latter grade of wool might be represented by lot 154, lot 200, lot 185, and lot 189, purchased at different times and at different prices. Under our code system we would find under card 2111 the total number of pounds of this particular grade of wool on hand and its average cost. In like manner, under code No. 4203 we would find all our lots of Australian wool which was long, white, dead fine, carbonized, and neutralized.

Under code No. 6011 we would have all the French-combed noils which were short, white, fine, scoured, and fairly free from shives. This would be a convenient way of disposing of all of the small lots of French-combed noils on hand. The superintendent, manager, cost department, stock room, and in fact every one would know the total poundage of French-combed noils on hand and its average cost by simply referring to this one card.

The various classes of rags from which the shoddy is made are classified in a somewhat similar manner. The numbers of the first digit would represent the source of material; the second digit, the color; the third digit, the staple length; and the fourth digit, the degree of fineness. Thus the code system would be worked out from table II, bearing in mind that for shoddy the prefix "S" is always used. Then all the white-flannel shoddy, either made or purchased, would be on code card S-2110. The white-flannel clips would not be posted on card S-2110 until the bale of clips had been made into shoddy, the yield determined, and the proper amount of direct and indirect labor added to the cost. For example, say the day the code system is introduced there are 5,000 lb. of white-flannel shoddy on hand posted under card S-2110 at a price of 45c. per pound. This might mean that the white-flannel clips cost 38c. per pound, that the direct and indirect labor of converting this into shoddy was 4c. per pound, and that 3c. per pound represents shrinkage both in fly and card waste.

Before any of this 5,000 lb. has been consumed, five bales of rags or 2,690 lb. of white-flannel clips are purchased at a price of 35c. per pound. These are made into shoddy and delivered to the stock house, the yield being 2,550 lb. Thus the mill would have on hand 7,550 lb., which cost $3,227.16. The average price per pound of this stock could then be computed and used for all cost-accounting purposes. In a like manner,

(Continued on page 87)

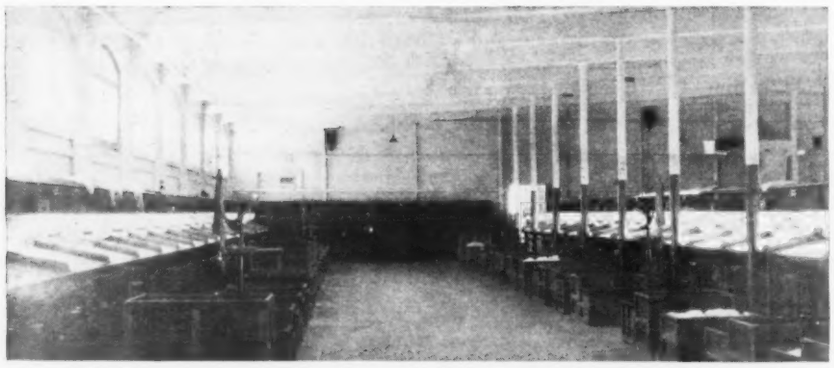
TABLE I

FIRST DIGIT *Fulling Character*	SECOND DIGIT *Staple and Color*	THIRD DIGIT *Degree of Fineness*	FOURTH DIGIT *Condition*
	0 Short white	0 Dead fine blood	0 Very clear, no shives
1 Texas	1 Medium white	1 fine $\frac{5}{8}$-$\frac{7}{8}$	1 Scoured fairly clean
2 Cape	2 Long white	2 Medium or $\frac{1}{2}$	2 Scoured, seedy
3 California	3 Medium stain	3 Coarse or $\frac{1}{4}$	3 Carbonized & neutralized
4 Australian	4 Long stain	4 Kempy	4 Paint and tar clips
5 Territory	5 Medium gray		5 Pulled
6 French noil	6 Long gray		6 Carbonized, not neutralized
7 Bradford noil	7 Short Gray		7 Carbonized, neutralized, not dusted
8 Card waste	8 Short red		8 Carbonized, neutralized, dusted
9 Garnetted stock	9 Short black		9 Wool in grease

TABLE II

FIRST DIGIT *Source of Material*	SECOND DIGIT *Color*	THIRD DIGIT *Staple*	FOURTH DIGIT *Fineness*
		0 Very short	0 Dead fine, new
1 Sweater clip	1 White	1 Short	1 Fine, new
2 Flannel	2 Light mixes	2 Medium	2 Medium, new
3 Softs	3 Gray	3 Long	3 Course, new
4 Knits	4 Black		4 Dead fine, old
5 Tailor clip	5 Scarlet		5 Fine, old
6 Serges	6 Light red		6 Medium, old
7 Worsted thread	7 Dark red		7 Coarse, old
8 Woolen thread	8 Blue		
9 Mill trimmings	9 Striped mixes		

Classification and Assignment of Raw Silk



By H. F. Hofer

AUTHORITIES have stated that the classification and assignment of raw silk are two things distinct and separate. Considerable discussion has ensued as to whether this contention is correct, and if correct, whether or not the fact is logical. The writer believes that while it is unquestionably true at present, it is, however, logical only in connection with the existing method of classification.

Classification of raw silk followed testing of raw silk. Test results, at times, prove of but partial value, for the reason that the test figures have meanings only for those who are in a position to correctly interpret the given figures in terms of quality. Without such interpretation testing itself misses its object. Interpretation of test results again is of practical value only when from that interpretation the tested material permits of most beneficial assignment.

As to testing results, 52 grams as tensile strength may convey meaning to those who are familiar with the term, but to those not so familiar that term means no more than the figure 30 in a test for cleanness (meaning 30 slugs or bad casts in a thread of silk).

With a view to render the test result more intelligible, test results were classified, whereby the tensile strength result, such as 52 grams, was reduced to its equivalent of 1 denier of the tested material. Thus the figure 52 when applying to a silk of 14 deniers equals 52:14 or 3.7 grams per 1 denier. That last figure, provided the test is based on serimeter test practice, becomes 3.7:4 or 92.5% of perfect under the assumption that 4 grams is equivalent to 100% perfect.

Strength and Evenness

However, when reverting to the silk's characteristic of cleanness the test figure 30 is the result of a test that is not at par, with respect to interpretation, with the interpretation of the tensile-strength test. In this connection, the figure 30 is interpreted into quality equaling 85% of perfect. This figure results from attaching a value of 0.5 points for each of the 30 slugs and deducting the converted norm from 100, so that 30x0.5 equals 15, which deducted from 100 equals 85% perfection.

It is seen, therefore, that as to test interpretation, the two characteristics, tensile strength and cleanness, as examples, have no uniform base. The interpreted figures in terms of percentage of perfection have a value individually applying to their respective characteristics. But there the complication only begins.

The value of the tensile-strength test, even when given in terms of percentage of perfection, is different from the value of percentage of perfection for such characteristics as cleanness, neatness, and evenness; but again the difference between tensile strength and the other characteristics is not in any comparable proportion. On the contrary, between cleanness and neatness on the one side and evenness on the other the percentage value is unrelated. That explains the statement that without correct understanding of test figures the reduction of test figures into quality or classification has no bearing upon the possibility of correct assignment of the tested material. In other words, it would appear that some authorities are of the opinion that classification has a value only from the standpoint of traders in the commodity, but not from the standpoint of converting the raw material into fabrics.

In the ultimate analysis then, classification in figures such as 90, 85, or 80% or further translation into such terms as grades A, B, C, etc., does not solve the manufacturer's problems of correct assignment of the tested raw material; on the contrary, it is misleading the converter into incorrect assignment or application of the material. Classification of raw silk according to present methods answers the purpose of correct assignment of the tested material only when the test figures and their respective values are correctly understood and directly applied.

Present Tests Deficient

The fact is, however, that with the necessary change in testing practice, the test results can be so interpreted

as to automatically convey converting value irrespective of size of the tested material. That change in testing practice, however, is not a simple one. What the change must consist of is best explained with a concrete example of the disturbing element in the present testing practice. An example of this sort is most effectively rendered in connection with a test for the silk's "cleanness" property.

Two lots of raw silk of an average size of 14 and 28 deniers respectively might be employed with results at par in a hose fabric of 84-denier yarn, the silk of the one lot being used in 6-thread, the other in 3-thread. The two lots when tested for cleanness, and showing as a result 30 defects (such as slugs or bad casts) would rate a cleanness quality of 85. Under present testing practice and test interpretation each defect is evaluated as 0.5% of the total; 15 deducted from 100 equals 85% perfection.

Now, in 84-denier tram as made from the two original raw-silk lots (viz. 6x14 and 3x28 deniers respectively) the average length per 1 lb. of silk thrown is 53,000 yards. These 53,000 yards naturally produce a definite number of hose. Simple arithmetic will show that the original number of 30 defects for cleanness established by the present testing practice will not mean an equal amount of cleanness imperfections in the hose products, but that the lot made from the 14-denier silk will produce many more cleanness imperfections than would the other lot.

Consulting the schedule for testing we find that in case of the 14-denier silk the imperfections given in the test report refer to lengths of 500 meters, whereas in connection with the 28-denier silk the test base is 333 meters.

What relation is there between 30 defects in connection with 14-denier silk and 30 defects in connection with 28-denier silk? How many imperfections are there to the unit of 1 lb? If in either case the test result is reduced or translated into quality 85 (as we mentioned before), what does that figure 85 mean with respect to correct assignment of the silk for manufacturing purposes? These are questions we must answer if we wish to derive any benefit from the testing practice, and we cannot give these answers unless we are in a position to interpret the test figures with correct relation to each individual case.

What we perceive with no difficulty is that if 30 imperfections (slugs) means 30 in connection with 14-denier silk, then the same figure (30) in case of 28-denier silk means

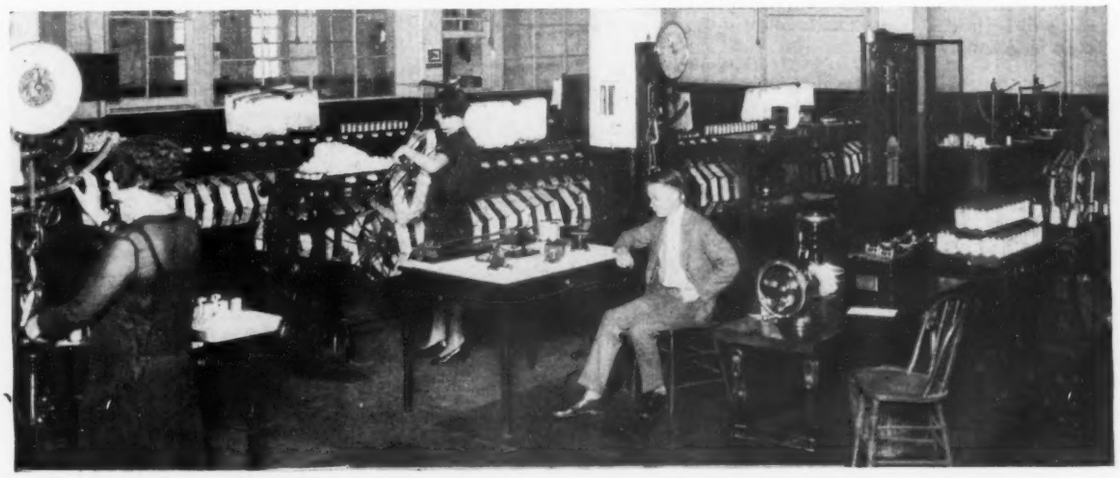
$$\frac{30 \times 14 \times 500}{28 \times 333} = 22.5$$

Attaching to this figure the value of 0.5 points penalty according to the prevailing testing practice we arrive at a total penalty of $22.5 \times .5 =$ 11.25, which, when deducted from 100, leaves 88.75 as the rating for cleanness, and not 85. Between 88.75 and 85 respectively there is a difference large enough to make comparison impossible—that is, a difference large enough to prevent assignment of tested material with any degree of accuracy respecting the final result. The difference in the relative number of defects is 25 per cent.

LACK OF correlation between the classification and assignment of raw silk has proved a serious handicap to manufacturers. In this article Mr. Hofer points out some of the deficiencies in the present classification method and makes suggestions for correcting these conditions.

Mistaken however would be the idea that in order to arrive at correct proportions one had but to accept as standard the difference as given in the foreging example. That does not hold good for all of the various sizes, because the difference in length of the tested material is no fixed proportion. Still greater would prove the mistake in assuming that with respect to the evenness characteristic a similar proportion will apply. That is not only not the case, but on the contrary, in connection with evenness the effect is in reverse order.

This example merely answers the purpose of illustrating the danger to the converter in attaching value to test figures when the figures as such are not interpreted to a base. There is, however, a full table of equivalents of test values for various sizes. With the help of that table the results of tests on silk irrespective of its size may be translated so that uniformity in manufacturing results may be obtained.



Well-Equipped Silk Testing Laboratory

NEWS about MEN

HARRY E. DANNER has been elected president and treasurer of the Bradford Dyeing Association (U.S.A.). He was formerly vice-president of the company.

L. M. O'MELIA, head of O'Melia Silks, Inc., Fonda, N. Y., was elected to the board of governors in that village at the annual election.

JOHN BARNES, president of the Blood Knitting Co., Amsterdam, N. Y., has returned from an extended sojourn in Florida.

B. B. GOSSETT, president and treasurer of the Chadwick-Hoskins Co., of Charlotte, N. C., has been elected president of the Mecklenburg Chapter of Sons of the American Revolution.

THEODORE T. ELLIS, president and treasurer of the New England Fibre Blanket Co., Worcester, Mass., and JAMES E. OSBORN, former president of the Osborn Mills, Fall River, Mass., have been re-elected directors of the C. T. Sherer Co., Worcester.

B. M. CROUSE, president of the Skenandoa Rayon Corp., Utica, N. Y., has been elected vice-president of the First Bank & Trust Co. in that city, a newly created office.

FRED A. RAKESTRAW, Hyde-Rakestraw Co., Philadelphia, has returned to his office after an absence of two weeks which were spent in Florida.

ERNEST C. T. BICK, of Bick & Co., Inc., Reading, Pa., has been appointed a director of the Colonial-Northeastern Trust Co., of Reading, Pa.

W. T. THATCHER, Standard-Coosa-Thatcher Co., Philadelphia, has been spending several weeks at Cocoanut Grove, Fla., where he has a winter home.

JOHN P. MAGUIRE, of Textile Banking Co., New York, has been elected to the board of directors of Pacific Mills.

PRICE GILBERT, associate justice of the Supreme Court of Georgia, will be one of the principal speakers at the annual convention of the Cotton Manufacturers of Georgia, which will be held at the Atlanta-Biltmore Hotel, in Atlanta, April 3 and 4.

C. GORDON COCKSHUTT, of Brantford (Ont.) Can., who has been actively engaged in the textile industry for a number of years, was elected a member of the board of directors of Harding Carpets, Ltd., at a meeting of the directors held recently.

●

S. Y. AUSTIN, vice-president of the Callaway Mills, delivered an address on "Fabrics Used in the Rubber Industry, from the Mill Man's Viewpoint" at the Town Hall Club, New York, on March 28, before the New York Group of the American Chemical Society.

PHILLIP A. VOGELMAN, vice-president of Onondaga Silk Co., Inc., Syracuse, N. Y., has been elected a member of the board of directors.

Z. O. JENKINS, treasurer, Cliffside (N. C.) Mills, and DAVID LINDSAY, treasurer, Spinners Processing Co., Spindale, N. C., were elected chairman and vice-chairman, respectively, of the Rutherford County Simmons Club, which has been organized to support Sen. F. M. Simmons in his race for reelection.

RICHARD LENNIHAM, treasurer of the Hamilton Woolen Co., manufacturers of worsted goods, at Southbridge, Mass., is spending his annual vacation on the Pacific Coast, making his headquarters at Los Angeles.

CHARLES F. MARBLE, treasurer of the Curtis & Marble Machine Co., Worcester, Mass., was tendered a luncheon on March 24 in honor of 20 years of service as a trustee of the Worcester Trade Schools from which he retired on Jan. 1.

JOSEPH S. EHRMAN, former treasurer of Blue Star Knitting Co., Milwaukee, Wis., has been elected president of the organization to succeed JULIUS BRESLAUER, recently deceased.

O. W. GRIDLEY, treasurer of the Utica (N. Y.) Knitting Co., is among the newly elected directors of the Mutual Insurance Co. in Oneida County.

WALTER E. SCHUSTER, treasurer of the Schuster Woolen Co., and the Hayward Woolen Co., both of East Douglas, Mass., has been elected a Republican selectman of that town for three years.

KEMP P. LEWIS, secretary and treasurer of the Erwin Cotton Mills, made an address before the monthly meeting of the Durham Post of the American Legion on March 23.

●

WM. F. SCOTT, agent and buyer at the Holden-Leonard Co., Bennington, Vt., has resigned his position with that company. His successor has not yet been officially announced.

RICHARD HEYWOOD, assistant purchasing agent for the Draper Corp., Hopedale, Mass., and Mrs. Heywood, have returned from a vacation trip to Bermuda.

C. GRANT ISAACS, manager of the district office of the Bureau of Foreign and Domestic Commerce, Charlotte, N. C., since it was established in September, 1928, was recently appointed as special assistant to the Assistant Secretary of Commerce, DR. JULIUS KLEIN, effective March 31. MARVIN L. SHIRLEY, assistant manager of the Charlotte office, will be in charge of the office until a permanent successor to Mr. Isaacs is appointed.

THOMAS STINSON, office manager for the M. J. Whittall Associates, Ltd., Worcester, Mass., returned on March 22 from a month's cruise in the Mediterranean on the S.S. "Statendam."

F. A. BANDA, export manager of the Fulton Bag and Cotton Mills, Atlanta, Ga., is a member of the Cuban Goodwill Tour which has just left for a two-weeks' trip to Cuba. The tour, which is being sponsored by the Atlanta Foreign Trade Club, is being taken by 200 prominent Atlanta business men.

JOHN M. JAMES, department manager of the Farr Alpaca Co., Holyoke, Mass., has joined with AARON C. BAGG, of that city, in purchasing a farm of 68 acres to be maintained as a bird sanctuary, in Williamsburg, Mass.

P. C. FURBECK, for many years sales manager of the Union Mills, St. Johnsville, N. Y., has been elected a trustee of that village for the ensuing year.

MAJOR JESSE T. CRAWFORD, formerly superintendent of the Riverside and Toxaway plants, Gossett Mills, Anderson, S. C., was recently named superintendent of the Baldwin plant of Aragon-Baldwin Cotton Mills, Chester, S. C.

J. F. CHALMERS has resigned as superintendent of Plant No. 2, Fort Mill (S. C.) Mfg. Co.

J. P. CARTER, who has held the superintendency of the Clinton (S. C.) Cotton Mills, has resigned.

JOHN DAVIDSON, mill superintendent of the Bigelow-Sanford Carpet Co., Clinton, Mass., and Mrs. Davidson, celebrated the 40th anniversary of their marriage on March 21.

F. E. KRAMER has resigned his position with the Hudson Silk Hosiery Co., Charlotte, N. C., and has accepted the position of superintendent of the Morten-Davis Hosiery Mills, Dallas, Texas.

ALBERT C. MARBLE, superintendent of the Curtis & Marble Machine Co., Worcester, Mass., has been reelected president of the Worcester (Mass.) branch of the National Metal Trades Association for the third term.

STEWART D. FISHER, superintendent of the Lorraine Mfg. Co., Westerly, R. I., has resigned to accept a similar position on April 1 with the Fisher Mfg. Co., Fisherville, Mass., succeeding CHARLES P. MOODY, who left recently.

D. R. LAFAR, formerly superintendent of the Harden Mfg. Co., Worth, N. C., now holds a similar position with the Spencer Mountain Mills, Ranlo, N. C.

J. J. GILLESPIE has resigned his position as superintendent of Rollinson Mills, Inc., Rocky Mount, N. C.

HARVEY E. GREENWOOD, production superintendent for the Lancaster Mills, Clinton, Mass., severed his connection with the plant on March 22.

HERMAN KROGMAN, formerly employed as a knitter at Rosedale (Pa.) Knitting Co., is now superintendent at plant of Sidney Hosiery Co., Graham, N. C.

JAMES OATES has assumed his new duties as general superintendent of the Cherry Cotton Mills, Florence, Ala.

F. B. WATSON is now superintendent of Griffin (Ga.) Mills, which were taken over by the Hightower interests several months ago.

H. REECE WILLIAMS has replaced ALLAN WILLIAMS as superintendent of Pilot Hosiery Mills, Lexington, N. C.

CORNELIUS CLARK, formerly connected

with a textile mill at Ware Shoals, S. C., is now overseer of folding, packing and shipping, at the plant of the Seminole Mills, at Clearwater, S. C.

JOHN H. BATEMAN, superintendent, Southern Worsted Corp., Greenville, S. C., has been promoted to general manager of that concern, succeeding JAMES H. PURDY, who has resigned and will return to his former home in Philadelphia to engage in other work. ISAAC DEKOYNER has been named superintendent of the plant to succeed Mr. Bateman.

LESTER CARTER, superintendent of the Covington (Va.) plant of the Industrial Rayon Corp., has been transferred to a plant of the same company in Cleveland, Ohio.

●

WILLIAM A. MURPHY, who has for many years been superintendent of the Thomas Dalby Co., Watertown, Mass., has resigned his position and accepted a similar one with the Elliott Mfg. Co., Manchester, N. H.

HARRY MOSLEY, superintendent of the yarn department for the Oregon Worsted Company, Portland, Oregon, has resigned his position with that company.

EARL TOWNSEND of Webster, Mass., has assumed a new position as overseer in the Langley Mills at Augusta, Ga.

F. G. SHINN, who resigned recently as superintendent of the McCleary branch of the Mohawk Carpet Mills, Amsterdam, N. Y., is now making his home in New York City where he has embarked in business.

L. J. YOUNG has resigned as superintendent of the cotton mill branch of the Hind & Harrison Plush Co., Clark Mills, N. Y.

ROBERT WHEWELL, with the Gosnold Mills Co., New Bedford, Mass., for 10½ years, and assistant to JAMES BOLTON, manufacturing superintendent since last August, has resigned to become associated with the Fall River offices of Homer Loring's United Merchants & Manufacturers, Inc. He will assist JAMES MCLANE and be in charge of designing.

GEORGE F. BECKNELL, is now production manager of the Waldensian Weavers, Inc., Valdese, N. C.

E. A. FEIMSTER, a graduate of the Textile School of North Carolina State College, has been promoted from overseer of dyeing to assistant superintendent of the Eagle & Phenix Mills, Columbus, Ga.

J. H. COLE has concluded his work as overseer of the Johnson (Vt.) Woolen Mills to become vice-president of the Richford (Vt.) Garment Co.

F. H. HEINE, formerly connected with C. K. Eagle & Co., in charge of the raw materials department at their plant at Shamokin, Pa., and recently assistant superintendent of the Du Bois (Pa.) Silk Throwing Co., is now assistant superintendent at plant of the Celanese Corp. of America, Cumberland, Md.

H. H. HERRING has resigned as master mechanic of the Piedmont Mills, Egan, Ga.

GEORGE BRADLEY has taken the position as designer for the Warren Woolen Co., Stafford Springs, Conn. Mr. Bradley was formerly employed for the Hoosac Worsted Mills, North Adams, Mass.

Herman Heller who was re-elected president of Knitted Outerwear Selling Agents Association at recent meeting in New York.

WILLIAM SAINSBURY has resigned his position as designer at the plant of the Hamilton Woolen Co., at Southbridge, Mass.

ROY DITSON has concluded his work as overseer of the finishing department of the Cascade Woolen Mill at Oakland, Maine, and will leave at once for Janesville, Wis., to assume a similar position with the Rock River Woolen Mills. HARRY DAVIS, of Waterville, Maine, succeeds Mr. Ditson. Mr. Davis was formerly overseer of the finishing department at the plant of the American Woolen Co., at Oakland.

L. A. SIMONS is now master mechanic at the plant of the Social Circle (Ga.) Cotton Mills.

ALVIN B. STOREY is now employed as textile engineer at plant of Celanese Corp. of America, Cumberland, Md.

FRANK BAGWELL, formerly second hand of the cloth room, Beaumont Mfg. Co., Spartanburg, S. C., was recently made overseer of the cloth room at the Arkwright Mills, of Spartanburg.

EARL L. CLIFFORD, who was finisher at Dutchess Bleachery, Inc., Wappingers Falls, N. Y., is now superintendent of finishing at Rock Hill (S. C.) Printing & Finishing Co.

FRANK COKER, formerly of Trion, Ga., is now second hand in weaving and slashing at the Graniteville Mfg. Co., Warrenville, S. C.

T. N. CROCKER, formerly connected with the Mollohon Mills, Newberry, S. C., is now overseer of the carding department of the Riverdale Mills, Enoree, S. C.

ALLAN COLEMAN is now second hand in weaving at the Wetumpka (Ala.) plant of the Alabama Mills Co.

J. A. DUNCAN has resigned as overseer of carding and spinning at the Alabama Mills Co., Aliceville, Ala.

E. T. DYESON, overseer of the cloth room of the Clinton (S. C.) Cotton Mills, has resigned.

HARRY J. DAVIS, formerly overseer at Earnsdale Worsted Co., Clinton, Mass., is now overseer of dressing at plant of Green River Woolen Mills, Inc., Huntington, Mass.

JESS GAILLARD, who has been second hand in the cloth room of the Balfour (N. C.) Mills, has been promoted to outside overseer.

W. H. GUINN, overseer of carding and spinning at the Raeford (N. C.) Cotton Mills, has resigned.

JAMES E. HOULIHAN, formerly with the Pontoosuc Mills, Inc., is now finisher at plant of E. E. Hilliard Co., Inc., Buckland, Conn.

W. M. HANCOCK is now night overseer of weaving at the Kilby Cotton Mills, Montgomery, Ala.

GEORGE KRAUSS, former overseer of weaving at the Lancaster Mills, Clinton, Mass., and an employe for nearly 44 years, will conclude his services within the next two weeks.

W. A. MCNEACE has been appointed overseer of weaving, succeeding J. P. HALLMAN, who recently resigned, at the plant of the Clinton (S. C.) Cotton Mills.

N. M. O'DANIELS, formerly of the Slater Mills, Marietta, S. C., is now overseer of carding at the Watts Mills, Laurens, S. C.

EDWARD C. OPENSHAW, traveling erector for the Draper Corp., Hopedale, Mass., has returned from a several months' visit to Austria.

L. OTTS, overseer of carding at the Clinton (S. C.) Cotton Mills, has resigned.

W. O. RUFFIN, second hand in the weaving and slashing department of the Graniteville Mfg. Co., Warrenville, S. C., has resigned.

JOHN M. SWEENEY, overseer of dyeing, and JOSEPH TOOMEY, overseer of finishing, both formerly of the Rochdale (Mass.) Mills of the American Woolen Co., this week took similar positions in plant of Holden-Leonard Co., Bennington, Vt.

●

EDWARD C. RUSSELL has taken the position as overseer of finishing for the Schuster Woolen Co., East Douglas, Mass. Mr. Russell was formerly employed at West Warren, Mass.

GEORGE R. KAY, JR., New Bedford, Mass., has accepted the position of overseer of ring spinning with the Fisher Mfg. Co., Fisherville, Mass., April 1.

MYRON F. TROTT, assistant master mechanic for the Lancaster Mills, Clinton, Mass., is one of the few retained at the plant during the process of liquidation, and he will have charge of the sprinkler system maintained as a precaution against fire.

CHARLES VISSAGE is now master mechanic at the Oconee Spinning Mill, Delano, Tenn.

WILLIAM WHEELER is pattern weaver at Agawam (Mass.) Co.

ROBERT WHITE, head of the weaving department of the Lancaster Mills, Clinton, Mass., has severed his connection with the plant.

NEWS about MILLS

Cotton

Sutherland Mfg. Co., Augusta, Ga., which shut down about six months ago, will liquidate. Proposals are in order for bids on machinery and all equipment and the property itself, it is officially stated. The company belonged to the estate of Herbert Clarke and had been operated by J. C. F. Clarke.

Bibb Mfg. Co., Columbus, Ga., is running all machinery in its mill on longer schedule, and some departments are operating the full week, according to Frank H. Naylor.

Harris Cotton Mills located at Eatonton, Ga., will be sold to the highest bidder by the trustees for the bond holders at the Athens (Ga.) Court House, April 1. This mill was operated during 1929 on medium and coarse count yarns.

Griffin (Ga.) Mills, which were recently taken over by the Hightower interests, have purchased new machinery for making fine combed goods, which will be finished by the Thomaston (Ga.) Bleachery.

Lockwood Co., Waterville, Me., manufacturing cotton sheetings and shirtings, has shut down 700 looms and expects to shut down 100 more in a few days, affecting from 75 to 100 employes, mostly women.

***Lancaster Mills,** Clinton, Mass., which are liquidating their affairs, will cut off approximately 20 pensioners from the payroll on April 1. The pensioners, many of them in the service of the plant for 50 years, receive from $5 to $10 a week. In the liquidation settlement proceeds will first go to creditors and the balance to the stockholders.

***United Rayon Corp.,** Fall River, Mass., a subsidiary of the United Merchants & Manufacturers, Inc., has installed 200 Stafford 54-inch automatic looms at the Connecticut Mills plant, and it is understood that 300 more are expected. The warping and winding machinery is being set up.

Clinchfield Mfg. Co., Marion, N. C., is arranging for increased capacity at its mill, and will establish a night shift at an early date.

Statesville (N. C.) Cotton Mills, Inc., manufacturers of jacquard velours, have appointed the Iselin-Jefferson Co., selling agents for their products, it was announced by officials of the mills.

Schadewald Mills, Philadelphia, Pa., manufacturers of bed spreads, rayon piece goods, etc., having an equipment of approximately 155 narrow and 24 broad looms, are liquidating and the business will be discontinued. They are selling their machinery and equipment.

*Indicates previous mention of project.

Lonsdale Co., Providence, R. I., has adopted a three-day-week production schedule at its different mills in the Blackstone Valley, and will continue on that basis for several weeks.

***Certified Laboratories, Inc.,** Marble Falls, Tex., successors to **Marble Falls Textile Mills Co.,** have received five carloads of machinery costing approximately $250,000, for use in the manufacture of absorbent cotton, medicinal gauze, adhesive tape and household supplies. It is being installed in a large building erected a number of years ago for a cotton mill.

Halifax Cotton Mills, Inc., at South Boston, Va., will operate on a four-day schedule in each week. According to the president of the company, W. A. McCanless, this will be only temporary.

La France Textiles Ltd., Woodstock, (Ont.) Can., is now working full time in daytime and 30% of the looms are working at night. The employment staff has been temporarily reduced from 300 hands to 243.

Wool

Sanford (Me.) Mills announce that 45 more looms are to be put in operation immediately. It is said an order has been received that will require three months work to fill.

Bigelow-Sanford Carpet Co., Clinton, Mass., has returned to a five-day week operating schedule.

George H. Gilbert Mfg. Co., Ware, Mass., has announced a plan to close its Ware mills beginning April 1, and concentrate production at its mills in Gilbertville, Mass. The mills at Ware, for production of woolen and worsted goods, have been operated for about 60 years and have employed as many as 300 to 400 persons at times.

Bonin Spinning Co., Woonsocket, R. I., has asked bids on general contract for a two-story addition to mill on Mendon Road, 25x103 ft.; Oscar H. Drouin, Woonsocket, is architect.

Dunn Woolen Co., Martinsburg, W. Va., following several weeks of operation on part time, last week began on a full time schedule.

British Columbia Worsted Mills, Ltd., of Victoria (B. C.), Can., have just received an order for the supply of 70,000 lb. of yarn from the Jantzen Knitting Co.

Knit

***Colton Knitting Mills of California, Ltd.,** Los Angeles, Cal., which were recently organized for the manufacture of swimming suits for men, women and children, began operations a few days ago in their plant at 224 East 11th St. The plant has a total of 14,000 sq.ft. of floor space, and is equipped with the latest type of machinery.

Americus (Ga.) Rayon Mills stockholders have voted to increase the capital stock of the company from $10,000 to $25,000, thus permitting the exchange of bonds between the old **Sumter Rayon Mills** and the Americus Rayon Mills on a dollar-for-dollar basis. At the same time, the following were elected directors in the company: R. C. Ellis, Frank Harrold, C. T. Tillman, Charles F. Crisp, James Lott, R. C. Moran and H. L. Mize. Officers will be elected at a meeting to be held in the near future.

Rollins Hosiery Mills, of Des Moines, Iowa, have acquired half a floor in the Rhodes Building Annex, on Marietta St., Atlanta, Ga., where they will open an office and stock-room on or about April 1.

Ipswich Hosiery Mills, Gloucester, Mass., have resumed full schedules with a good volume of orders on hand. For the last six months the company has been hampered by labor troubles.

Liddle & Michael, Amsterdam, N. Y., are now operating on full time weekly schedules with additional workers.

Stillwater (N. Y.) Knitting Co., Inc., has increased operations because of business demands which insure full time schedules.

Walnott Knitting Co., Utica, N. Y., is increasing operations by taking on additional help in all departments.

Olga Knitting Mills, Watertown, N. Y., are reported in a condition of insolvency, seeking a compromise with creditors. Liabilities are estimated at $28,000 and assets at $16,039 and if an agreement is reached the firm will continue operations.

Augusta Knitting Corp., Whitesboro, N. Y., is now taking on new workers while running at full capacity in all departments.

Oswego (N. Y.) Rayon Corp. has selected the name "Supertex" for the trade name of its new rayon products which the company is to market.

Wyrick Hosiery Mills, Mebane, N. C., have resumed production at their plant on a day shift basis, and will continue on that schedule for several weeks to come. The plant has been idle for some weeks.

Hatch Full-Fashioned Hosiery Co., Belmont, N. C., has appointed S. D. Arrowood & Co., 346 Broadway, New York, exclusive agents in New York City.

Harry Branley, Honesdale, Pa., manufacturer of infants' knit goods, is increasing capacity of his plant by occupying another floor of the Harris Building. The mill is working full time and has orders ahead.

Vogue Silk Hosiery Co., Philadelphia, Pa., at a meeting of the board of directors, held March 24, elected as president R. C. Huettig, who was former president and general manager of the Paterson Mutual Hosiery Mills, Inc., and his son, Fred R. Huettig was elected secretary of the company. Both have

secured substantial interests in the Vogue Silk Hosiery Co. and the Modern Hosiery Co.

Artcraft Silk Hosiery Mills, Philadelphia, Pa. A walkout of the employes of this concern, manufacturers of full-fashioned hosiery, was reported last week from headquarters of the American Federation of Full-Fashioned Hosiery Workers. The mill is being picketed as are the plants of the Sunrise Knitting Mills and Rodgers Hosiery Co. H. C. Aberle Co. strike ended March 25.

Artex Knitting Mills, Philadelphia, Pa., manufacturers of cotton and rayon neckwear, formerly located at 600 N. American St., have moved to new quarters at 106 N. Third St.

Eaton Knitting Co., Ltd., Hamilton, (Ont.) Can., is proceeding with the enlargement of its mill. A two-story addition, providing for 50,000 sq.ft. more floor space, is to be built.

Silk

Cargill Textile Co., Inc., Putnam, Conn., rayon winders, has shut down and sold equipment to an unannounced purchaser. John H. Moss was principal owner.

Alex Abrash Silk Co., Inc., Fall River, Mass., recently organized with a capital of $50,000, to operate a local mill, will be represented by Alex Abrash, 299 Doherty St., Fall River, president and treasurer.

Ruby Silk Mills, Paterson, N. J. The four-story mill of this company at Straight and Cedar Sts., known as the **Janowitz Mill,** was partially destroyed by fire recently with loss reported at close to $100,000, including equipment.

Vistex Mills, Inc., Conshohocken, Pa. A voluntary petition in bankruptcy has been filed by this concern, converters of rayon and silk yarns. Referee is Thomas Hallman.

Concordia Silk Mills, Philadelphia, Pa., manufacturers of broad silks and ribbons, have transferred the mill building at Boudinot & Allegheny Ave., to the **Concordia-Gallia Corp.**

Rayon

Franklin Rayon Co., Providence, R. I., has awarded general contract to the Parkhurst Building Co., Providence, for a one-story addition, 80 x 120 ft., to mill on Crary St., estimated to cost $20,000.

Finishing

Bellman Brook Bleachery Co., Fairview, N. J., has awarded a general contract without competition to A. A. LaFountain, Inc., Beech St. and Railroad Ave., Hackensack, N. J., for a one-story addition, 20 x 126 ft., brick type.

Trio Dye Works, Inc., Paterson, N. J., have filed claim of $3,400 against the Brunswick Silk Works, Inc., New York, whose bankruptcy schedule was filed March 20 in U. S. District Court.

Laughlin Textile Mills, Waterford, N. Y., are again operating near capacity with a normal working force.

Apponaug (R. I.) Co., has filed plans for a two-story addition, 20x34 ft., and will proceed with superstructure at once.

Miscellaneous

Illinois Philip Carey Co., 2100 Fullerton Ave., Chicago, Ill., an interest of the **Philip Carey Mfg. Co.,** Lockland, Ohio, manufacturer of asbestos products, has arranged for an increase in capital from $300,000 to $1,000,000.

Lida Mfg. Co., Inc., Union City, N. J., recently organized with a capital of $100,000, to operate a local mill for the manufacture of braids, etc., will be represented by Isaac & Gunther, Inc., 143 Summit St., Union City, attorneys. The company will be headed by Alphonse J. Angelino and Carl Muller, Carlstadt, N. J.

Hartsville (S. C.) Mattress Co., headed by J. J. Harris, will begin operations in a short time. The concern will operate in a small way at the start.

◆

Useful Catalogs

Tramrail. Cleveland Crane & Engineering Co., Wickliffe, Ohio. Leaflets. Overhead materials handling in the textile industry.

Brushes. Frank H. Hardy, Andover, Mass. Booklet. Illustrates brushes for textile machinery and mill cleaning.

Castings. Lebanon Steel Foundry, Lebanon, Pa. Steel castings for high-pressure valves.

Generating Sets. Troy Engine & Machine Co., St. Joseph, Mich. Bulletin 106. Describes and illustrates generating sets for stationary service.

Wet Finishing. Oakley Chemical Co., 22 Thames St., New York. Booklet. Uses of Oakite in wet finishing cotton and wool textiles.

Sizings and Finishings. Kem Products Co., 229 High St., Newark, N. J. Booklet. Applications of sizings, dressings, finishing materials, etc., for textiles.

Dryers. Philadelphia Drying Machinery Co., 3351 Stokley St., Philadelphia, Pa. Pamphlet. Describes and illustrates dryers for silk and rayon piece goods.

Boiler Water Control. Elgin Softener Corp., Elgin, Ill. Pamphlet. Equipment for controlling boiler water concentrations.

Electric Tools. Black & Decker Mfg. Co., Towson, Md. Catalog No. 20. Description and price list of portable and stationary electric tools.

Flooring. Marbleloid Co., 461 Eighth Ave., New York. Booklet. Commercial and industrial floorings.

New Publications

DIE KUNSTSEIDE, by Dr. Valentine Hottenroth. Second edition. 480 pages, 157 illustrations. S. Hirtzel, Leipzig, Germany. Price 30 marks.

In this enlarged edition of his book on rayon, Dr. Hottenroth, director of the Waldhof Cellulose Plant, while following the general plan of the first edition, has produced what is essentially a complete revision. As a text and reference book on the manufacture of rayon from raw product to finished fabric this latest work is recommended as a valuable addition to the literature of synthetic fibers.

The first part of the book deals in a general way with the historical development of the rayon industry and the manufacture of rayon. Following this the manufacture of the various types of rayon are discussed in detail—nitrocellulose, cuprammonium, viscose and cellulose acetate. Other synthetic products of cellulose and non-cellulose derivation are then discussed. A section, on finished rayon, includes dyeing methods, properties, and applications. Other synthetic fibers described are artificial linen, wool, straw, cotton, etc.

THE RAYON INDUSTRY, Second Edition, by M. H. Avram. 893 pages, 184 illustrations, S. Van Nostrand Co., Inc., New York. Price $12.

In the first edition of this book the information then available concerning the manufacture, processing, and distribution of rayon was correlated in one comprehensive volume. The rapid developments in the rayon industry have necessitated a revision of the book, and in the new edition numerous changes and additions have been made. Two new chapters have been included, one describing products other than rayon which are obtained from cellulose solutions, and the other explaining methods of solvent recovery in rayon manufacture.

Other parts of the book which have been enlarged and brought up to date include those on production statistics, earnings of manufacturing companies, consumption of rayon in various industries, rayon engineering problems, methods of manufacturing various types of rayon, processing rayon (weaving, knitting, sizing, bleaching, dyeing, and finishing), and measuring and testing rayon yarns. The chapter on patents has not been revised, and except for the addition of a list of references on solvent recovery the bibliography remains unchanged from the previous editions.

THE COTTON INDUSTRY OF JAPAN AND CHINA, by Arno S. Pearse. 222 pages, 25 illustrations. International Spinners' and Manufacturers' Associations, Manchester, England.

This book is a report of a tour made by the author for the purpose of studying the textile industry in Japan and China. The report covers nearly every phase of the industry, and contains a large amount of information which hitherto was not conveniently available.

The first section of the report treats of the cotton industry in Japan and includes the following subjects: historical development and present organization of the industry; raw cotton; technical section; labor conditions; bleaching, dyeing, and printing of rayon; cotton yarn and cloth, and import duties thereon. The second part of the book, on the industry in China, follows much the same plan as the first section, but deals particularly with the Shanghai cotton mills.

Questions and Answers

We undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD.

Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. We do not undertake routine analysis of woven or knitted fabric construction, or investigation involving unusual expense.

All inquiries must be accompanied by the name of the person inquiring, not for publication, but as evidence of good faith. The identity of those seeking information on technical subjects will not be disclosed.

Letters expressing opinions or voicing criticism will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld.—EDITOR.

Two Turns per Inch in Two-Ply Cotton Yarn

Technical Editor:

Please advise us if it is practical to twist 30/1 yarn two ply making about two turns per inch. In other words, we would like to know if the twist would be even throughout the package. (7131)

It is very unusual to make a 30/2 yarn with as little twist as two turns per inch. It can be done, but unless the single twist is quite low, the yarn is likely to be kinky. Probably, a single yarn with eighteen turns per inch could be two plied with two turns per inch, either in the same direction or in the opposite direction and still be satisfactory. If the single twist is 25 turns or more, this ply will probably be kinky unless steamed to "set" the twist. This amount of ply twist will make a yarn of different appearance from normal. The twist should be reasonably uniform if you have a uniform single yarn with which to start.

◆

Softening Synthetic Fiber

Technical Editor:

I am enclosing a sample of synthetic fiber which we desire to use in the proportion of one-third of the fiber to two-thirds worsted yarn in weaving a flat cloth. Considerable difficulty is experienced in lubricating this fiber successfully. Various oils have been used, but results to date have been more or less unsatisfactory. Our experience so far indicates that a good grade of neatsfoot oil is the most suitable, but we are not satisfied yet. We do not seem to be able to get the proper penetration with other oils at all. We shall appreciate your advice or recommendations as to a suitable formula to use on this fiber, also your recommendations on the proper method of handling, both during the lubrication process and after. (7107)

We are returning to you, divided into two sections, the sample of synthetic yarn. We did not have any of the yarn which had been softened with neatsfoot oil; therefore we could not compare it with the results we obtained. The sample was so small that we did not think it advisable to divide it into three parts. We have treated this rayon in two ways with two different types of rayon lubricants and are submitting it to you as No. 1 and No. 2.

Sample No. 1 was treated as follows: The yarn was soaked with a rayon oil composed of approximately 35% neatsfoot oil and 65% light mineral oil, by heating this oil to 100° F., and entering the rayon and working it in this bath for twenty minutes. It was then removed and hydro-extracted for three minutes at 1,700 r.p.m. We thought that this oil might be a better penetrant than neatsfoot oil alone, but this fiber sheds the oil and will not take it up. We believe that the sample is somewhat softer than it was before treating.

Sample No. 2 was treated by soaking in warm water at 120° F. for fifteen minutes and was then worked for ten minutes at 105° F. in a 10% solution of a stearic acid softener. It was squeezed through a wringer and dried at 150° F. It seems to be somewhat softer than No. 1.

If this does not meet your requirements and you wish to send us some more of the yarn, we will gladly make additional tests in hope that we can obtain further softness. We would prefer an uncut skein so that we can wind smaller skeins from the larger one.

◆

Stains on Knit Goods

Technical Editor:

We are enclosing a sample of knit goods with stains caused by a sewing machine. Do you know of anything that will remove the stains without leaving a ring? We have tried carbon tetrachloride, gasoline, and other preparations. We hope you will know of something that will remove the stains. (7093)

We quite agree with you that carbon tetrachloride, gasoline, and other solvents of this type are not suitable for removing the stains caused by the sewing machines, and found in the sample submitted and illustrated in Fig. 1. There is too much of a contamination of metallic particles in this stain for a straight solvent of the dry-cleaning type to remove. In a case of this kind, the solvent only dilutes the stain and causes it to spread throughout the goods. This leaves a ring or halo about the spot, not quite as noticeable, but of much larger area than the original.

A wet treatment with a solvent contained in a sul-

Fig. 1. Stain Caused by Sewing Machine

Fig. 2. Spot Removed Without Leaving a Ring

fonated oil is the most effectual method we have been able to find. These solvents soften and loosen the oil stains, and the sulfonated oil acts as a carrier and holds the metallic particles from the worn bearings in a state of suspension so that they can be flooded and washed out of the goods. If the soluble solvent has been made properly from the right ingredients, it will not affect the color of a fabric such as the one submitted. If these products are handled correctly, there will be no felting of the goods.

There are a number of these solvents on the market similar to the one described above. These vary in price depending on the amount and nature of the solvent. The one we used to remove this stain contains 80% solvent and 20% sulfonated oil. The solvent is non-inflammable, and does not strip the colors or injure the fibers. It does not have any fulling action on the goods.

We removed this spot by placing the goods upon several layers of paper toweling to keep the goods clean and to absorb any of the stain driven through the goods. We then took a glass stirring rod with a well-rounded and smooth end, dipped this into the solvent, and allowed the solvent to drip onto the spot. This procedure was continued until the spot was completely saturated. We then rubbed the spot gently with the glass rod, as shown in Fig. 3. When the spot was loosened, as indicated by picking up the goods and squeezing them with the fingers and noting that the black oil just oozed out, we then washed out the solvent in a weak solution of ammonia (2 oz. to the gal.). The rinse water was heated to 110° F. The goods were plunged up and down until the water was quite milky, and it appeared that the solvent was all in solution. The goods were then rinsed twice in warm water, squeezed, and dried. They were then given a light pressing. They turned out as in Fig. 2.

Were we to do this on a quantity production, we would make up the garments and sort out all those with spots. We would treat each spot as described above with the exception of the rinsing. With garments, we would do the rinsing in a washing machine. A washing machine would do the work better on a larger scale in less time. We would select one of those washing machines with plunger cups, as the agitation given by this type of machine helps work the water into the goods and forces the stain out. Most machines of this type have extractors instead of wringers, which is a superior method of driving out the excess water when the goods are ready to dry. We would not extract the goods too dry, as this would tend to make them harsher than drying them with more moisture left in them.

If the water has made them shrink a little in size, we would board the goods on a frame and press them while damp. In fact we would make the press give the final drying.

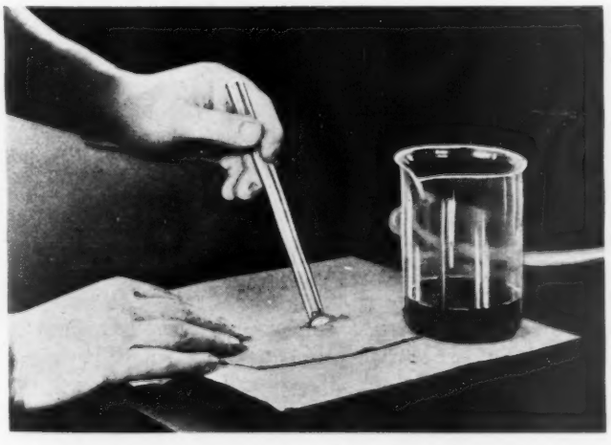


Fig. 3. Method of Removing Stain from Fabric

THOUSANDS of inquiries are handled annually by the Technical Editors. In order that as many readers as possible may benefit from this service, we select problems of general interest for publication each week.

◆

Spots on Rayon Full-Fashioned Hosiery

Technical Editor:

We are having some trouble at the present time with our rayon hosiery developing spots after the dyeing operation. We are sending you samples showing the nature of the trouble we are having, and would appreciate your explaining cause of these spots. *(7086)*

We have carefully examined these spots and find them to be something of an optical illusion, coupled with a slight reduction in the color. With the use of an ordinary magnifying glass it can be clearly seen that the fibers are chafed or abraded at each spot. This chafed condition brings about an entirely different optical effect, producing an opaque condition.

The trouble is purely a mechanical one so far as the chafing is concerned, and is undoubtedly chemical so far as the slight color reduction is concerned. The combination of troubles points strongly toward a difficulty to be located in the hydro-extractor. It is a well-known fact that many dyestuffs are susceptible to the influence of copper when brought in direct contact with it while the goods are in the wet stage; and since many hydro-extractors have copper baskets or copper-lined baskets, it is possible that the trouble is coming from the extractor basket. We advise checking up particularly on this feature. Extractor baskets for handling dyed goods are often made of tinned copper. Under long usage the tin plate wears off, and it becomes necessary to replate the extractor basket or to line it with light-weight cotton sheeting to prevent the goods coming in contact with the inner walls of the basket.

Another appliance which might be pointed to with suspicion is the truck used for handling wet goods in the dyehouse and boarding room. Oftentimes these trucks are made of wood and assembled with brass or copper bolts and screws with metal exposures on the inside. This condition should be avoided by lining such trucks with canvas or light wooden false bottoms to prevent the goods from coming in contact with copper or brass fittings. At the present time canvas baskets or trucks are being largely employed for the purpose of handling wet goods, and in recent years some of the canvas manu-

facturers have sought to improve the life and usefulness of their trucks by waterproofing the canvas. In this connection it has been found that chemicals employed in waterproofing the canvas have a reducing effect on direct dyestuffs, and wet goods left in such baskets for several hours or over night will frequently show spots from color reduction where goods are pressed against the canvas. This is particularly so while the canvas basket is new.

We believe that if inquirer will check carefully the two items mentioned that his trouble will be overcome. The trouble is undoubtedly coming from mechanical chafing in connection with some of the appliances employed in the dyeing and finishing of his goods, and the trouble points more specifically toward a hydro-extractor than anything else.

◆

Electric Tapes

Technical Editor:

We are enclosing two samples of cotton tape, No. 1 and No. 2. We would like all information regarding the manufacture of these tapes as to type of looms on which they are made, production per eight-hour day per loom, and number of looms that one man can attend to. (7100)

On analysis the constructions of these two tapes were found to be as follows:

Sample 1. Warp, 39 ends, 40/1 cotton, weighing 0.1857 lb. per gross yards of fabric. Filling, 36 picks, 30/1 cotton, weighing 0.0857 lb. per gross yards of fabric. Total weight per gross (144) yards of woven material, 0.2714 lb. Gross per pound, 3.07—. Width, $\frac{3}{8}$ in.

Sample 2. Warp, 51 ends, 20/1 cotton, weighing 0.4857 lb. per gross yards of fabric. Filling, 30 picks, 30/1 cotton, weighing 0.1429 lb. per gross yards of fabric. Total weight per gross (144) yards of woven material, 0.6286 lb. Gross per pound, 1.57+. Width, $\frac{3}{4}$ in. It should be noted that the weight of yarns in fabrics of this type is always calculated on the basis of 160 yd. per gross. This is to cover the take-up in weaving and waste in manufacture.

This type of material is called "electric" tape and is made on what is known as a narrow-fabric loom. In construction and operation, these machines are similar to ordinary cloth looms, except for the number of shuttles and the manner of moving the shuttles. The number of shuttles per loom ranges from 40 to 84 or more. The wider goods are, of course, made on the looms with the lesser number of shuttles. The method of operating the shuttles, as probably you are aware, is by rack and pinion, instead of by a picker stick as in the wide goods loom.

The dimensions of a narrow-fabric loom range from 16 to 26 ft. in length and 4 to 6 ft. in width.

The warp yarn used in the manufacture of electric tapes is usually purchased on large iron-head spools known as section beams. From the section beams the yarn is slashed (run through a starch solution and dried) and run on loom beams. The loom beams, each carrying the warp material for one tape, range in size from 9 to 16 in. in diameter, and the traverse may vary from 2 to 6 in.

The filling yarn may be purchased on regular parallel tubes or cones, and is wound onto the quills, one of which fits into each shuttle.

The production per loom depends upon the number of shuttles per loom, the number of picks per inch, the speed of the loom (i.e., the number of picks per minute), the working hours per week, and the percentage of efficiency.

Production in gross yards per week per loom may be calculated as follows (the figures used may be considered as arbitrary figures for the No. 2 sample): (56 shuttles × 180 picks per min. × 60 min. per hr. × 54 hr. per wk. × 80% efficiency) ÷ (30 picks per in. × 36 in. per yd. × 144 yd. per gross) = 168.00 gross.

One operator may run from 80 to 168 shuttles (to 4 looms).

After weaving, the material is inspected; run through a calender or pressing machine, which irons or flattens the goods to a specified thickness (in the samples submitted, 0.007 in.); and wound in rolls of 36 or 72 yd. each.

Electric tapes are sold by the gross (144) yards, and are usually made to specifications furnished by the large (electrical) consumers.

◆

Bleaching Wool

Technical Editor:

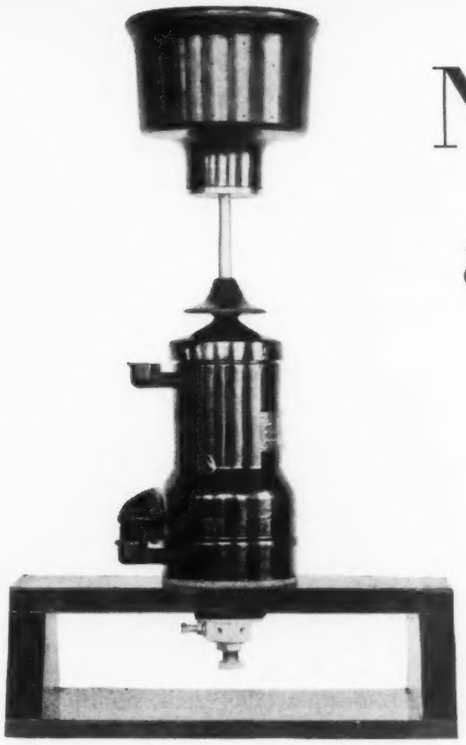
I have had some difficulty in bleaching wool due to scorching and tendering, and would appreciate it if you would send me, at your earliest convenience, data pertaining to this process. (7073)

The inquirer does not state what procedure he is employing in bleaching. From the fact that he mentions scorching as a difficulty encountered, the sulfur process no doubt is being used. The scorching in this case can be eliminated by burning the sulfur at a safe distance from the goods. The sulfur should not be burned directly beneath the material. About 5 lb. of sulfur should be burned to every 1,000 cu. ft. of space. The sulfur process is very simple. The goods are thoroughly scoured, rinsed, and extracted 15 min. They are then hung loosely on poles in the smoke or sulfur house and the sulfur burned in such a position that the fumes will circulate throughout the mass of goods.

We would, however, advise the use of hydrogen peroxide for bleaching wool. This procedure gives a permanent white, and leaves the goods with a better handle and with no obnoxious odors. For raw stock, a cypress vat is often used; and for piece goods, a string-type or reel machine. The goods are first thoroughly scoured and rinsed and then bleached. By the addition of certain chemicals to the bleach liquor the goods may be scoured and bleached in the same operation.

The following formula is suitable for scouring: 3% soap or a good bleaching oil, 1% silicate of soda, and 1% ammonia. Scour at 125° F. for 45 min. and rinse thoroughly with warm water. For bleaching, the following recipe should give satisfactory results: To every 100 gal. of cold water add 1 lb. hydrogen peroxide (100 vol.), 2 lb. silicate of soda, and 1 lb. ammonia. Bleach at 125° F. for two or three hours, rinse thoroughly, hydro-extract, and dry. For scouring and bleaching in one operation the following procedure may be used: Take 4% bleaching oil, 2% silicate of soda, and 1% ammonia, and to every 100 gal. of water add 1 lb. hydrogen peroxide (100 vol.). Bleach at 125° F. for two to three hours, rinse thoroughly, hydro-extract, and dry.

New Machinery and Processes



High-Speed Rayon Spindle

High-Speed Rayon Spindle

IMPROVED equipment for high-speed bucket spinning of rayon has been placed on the market by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Increased speed and greater bucket capacity have been made possible by the development of a Micarta bucket. For use in the pot-spinning process this equipment is said to give promise of increased output and reduced maintenance and operating costs.

The motor is of simple, sturdy construction. It is a high-frequency, three-phase, vertical-induction unit with a ball bearing above, and a sleeve-guide bearing below the rotor. The housing is designed to protect the working parts against acid through the use of a flinger, shrouded fits, and a coating of acid-resisting material. The stator windings are impregnated with acid-resisting varnish.

The shaft is made of heat-treated alloy steel and is proportioned to operate well above the critical speed, but not within the range of higher frequency vibrations. Running the bucket above the critical speed in this manner has the advantage that it permits it to rotate about its center of gravity rather than its geometrical center, thereby protecting the motor and bearings from the shocks of unbalanced loading. The motor itself is mounted on washers of resilient material. The principle function of these washers is to damp out vibrations which might be transmitted to the motor from the rail on which it is mounted.

The motors are ordinarily equipped with flat washers above and below the rail, with a lock nut to clamp the motor to the rail. If desired, a special socket type of mounting which avoids the use of the lock nut can be supplied. This mounting consists of a conical base on the bottom of the motor with a conical socket lined with resilient material in the rail.

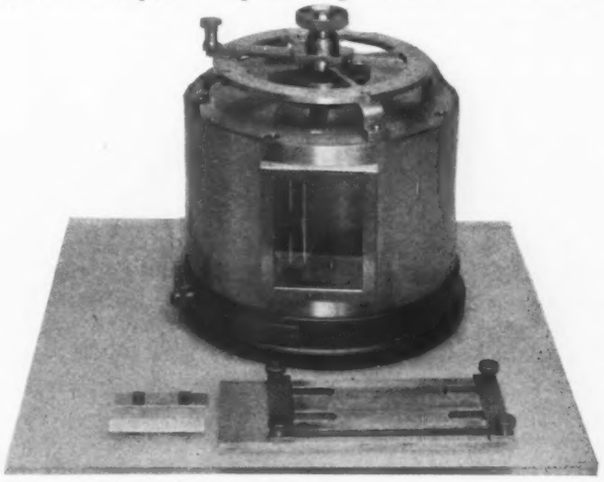
The lubricating system of the ball bearing has been worked out carefully. Successful operation of ball bearings at high speed requires a continuous though almost infinitesimally small supply of atomized oil. Due to the terrific velocity of the rotating parts a greater quantity than this will result in churning and sludging of the lubricant which overheats the bearing and produces early failure.

The oil well is divided into an outer chamber of large capacity and a small inner chamber. Oil passes slowly from the outer chamber through a felt ring into the inner chamber. The felt ring filters the oil. In the inner chamber the oil is atomized by a rotating flinger and passed upward to the bearing, after which it condenses and returns to the outer chamber. The consumption of oil is about one thimbleful per month per motor. The indications are that the bearings will run at least a year without replenishment of the lubricant.

Device for Testing Draping Qualities of Fabrics

AT A RECENT meeting of the American Society for Testing Materials, William D. Appel, chief of the Bureau of Standards, Textile Section, described a device for testing the stiffness and resiliency of cloth by measuring the amount of energy necessary to crease a sample of fabric and the energy released when the sample is unfolded. The Flexometer, as this apparatus is called, was developed by Dr. H. F. Schiefer, of the Bureau, as a part of the work on test methods.

The energy required to fold the sample is a measure of its stiffness, and the recoverable energy expressed as a per cent of the energy input is a measure of its resilience. The energy which is lost when a sample is folded is dissipated in producing a crease in the fabric.



Device for Testing Draping Qualities of Fabrics by Giving an Index of Stiffness

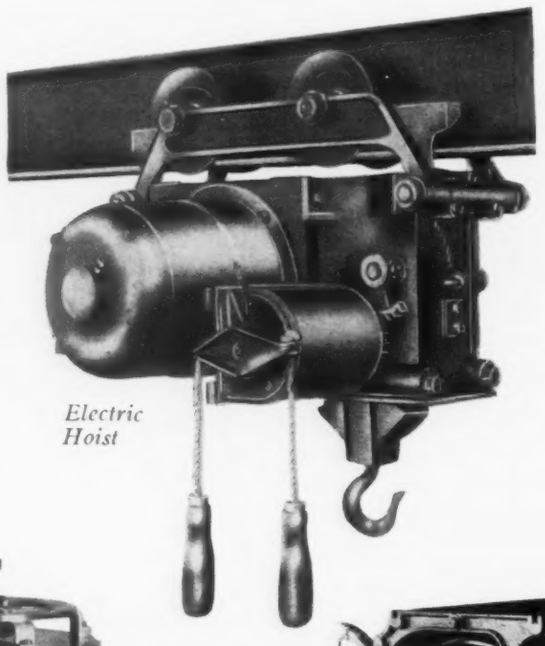
This energy loss expressed as a per cent of the energy input may therefore be taken as a measure of the wrinkle-ability of the fabric. The angle to which the fabric is folded and the time it is allowed to remain folded, as well as the dimensions of the sample, are important factors. Stiffness, resilience, and weight all contribute to the ability of a fabric to drape well; and if these properties can be evaluated, then it may be possible to evaluate drape. The Flexometer may be of use in evaluating the effect of fabric constructions and of finishing processes on these properties.

The Flexometer consists essentially of two vertical intersecting plates, one fixed and the other movable on a delicate spindle, by means of a sensitive calibrated spiral spring. Two samples of the cloth to be tested of standard dimensions are accurately mounted in opposite quadrants formed by the two plates. The angle to which the fabric is folded or unfolded, the amount of work done in folding, and the amount of work recovered in unfolding may be ascertained from two scale readings and a calibration table.

Electric Hoists

ELECTRIC hoists in sizes ranging from $\frac{1}{8}$- to $7\frac{1}{2}$-ton capacity are announced by Robbins & Myers, Inc., Springfield, Ohio. This range of sizes makes available a hoist of improved type for a great number of standard and special industrial applications.

The manufacturers state that among the outstanding features incorporated in these new hoists are a radical improvement in design which results in savings in weight and in space in all dimensions; an enclosed bottom block which holds the rope on the sheaves, and shrouds all parts so as to guide itself easily into the rope flare when swinging; and a gearing of alloy steel, heat treated to rigid specifications which allow for the maximum strain of constantly reversing tooth loads at top motor speed.



Electric Hoist

Other improvements include a cast-steel trolley adjustable to nine sizes of I-beams; and a main frame of Aremite alloy which has a tensile strength of 35,000 lb. per sq.in. Hyatt roller bearings, retained by steel plates and operating in an oil bath, are used in the hoisting mechanism. An aluminum finish throughout gives an attractive appearance and provides protection against damage from exposure.

Compact Palmer Machine

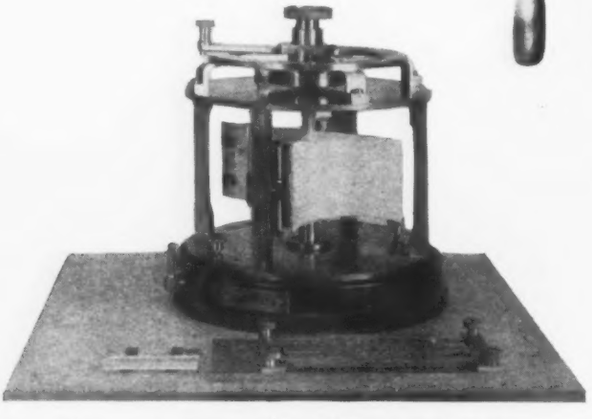
THE General Machine Co., 189 Caldwell Ave., Paterson, N. J., has placed on the market a small, compact Palmer machine for finishing fabrics. One of the principal features of the machine is the fact that it is designed for use with any length or type of tenter. Another characteristic of this Palmer is its height; since the machine is only 4 ft. 4 in. high, the operator working behind it at all times has a clear view of the goods as they come down the tenter frame.

It is stated that the Palmer is fast in operation, finishing from 15 to 60 yd. per min. without vibration, and that it functions in synchrony with the tenter, taking up the goods as quickly as they come off the frame. The machine is equipped with a high-pressure steam cylinder and with ball bearings throughout. By throwing a clutch the tenter can be released, and the frame will be free for straight running. Owing to the small number of working parts the cost of the new Palmer is low.

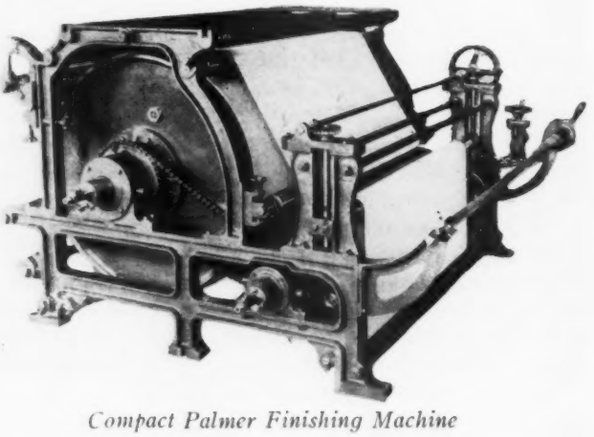
Depth Gage Attachment

BROWN & SHARPE Mfg. Co., Providence, R. I., has placed on the market an attachment for converting a combination square or set into a depth gage. The depth gage attachment No. 468 measures directly from the lower edge of the blade of the square or set and is easily read. The tool is said to be particularly useful for measuring the depth of wide recesses.

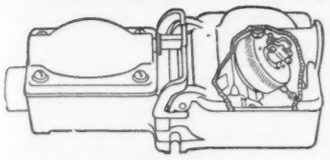
The English-measure attachment has a range of 0 to $4\frac{1}{2}$



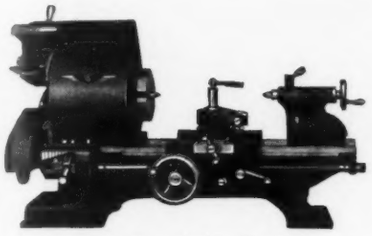
Flexometer for Testing Stiffness of Fabrics with Cover Removed



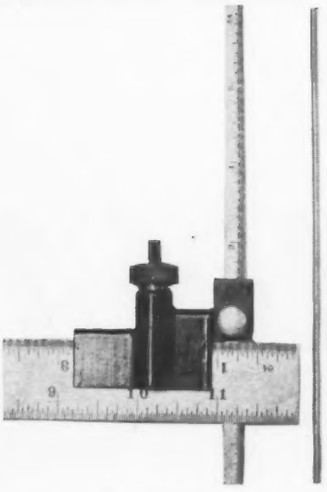
Compact Palmer Finishing Machine



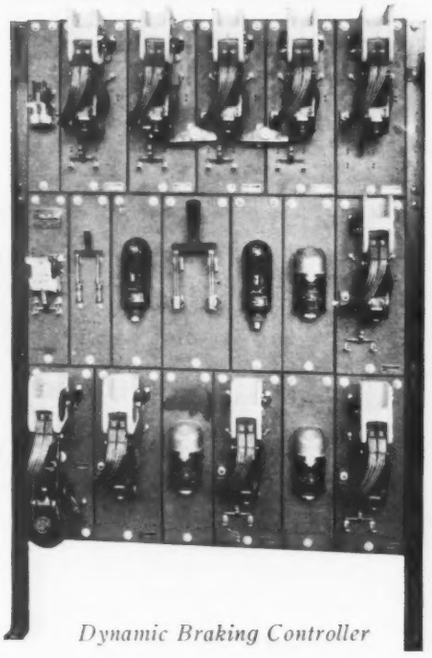
Interlocking Safety Switch Condulet



Small Precision Lathe



Depth Gage Attachment



Dynamic Braking Controller

in., with a 6-in. blade graduated in either 32nds and 64ths or 64ths and 100ths. The blade with 32nds and 64ths graduations is furnished unless otherwise specified. The metric-measure attachment has a range from 0 to 114 mm., with a 5 cm.-blade graduated in mm's. and ½ mm's. A rod $\frac{5}{64}$ in. in diameter is furnished for use in small holes. The attachment may be used on 9-, 12-, 18-, and 24-in. Brown & Sharpe combination squares and sets. It cannot be used on combination squares and sets with heavy blades.

Dynamic Braking Controller

A DYNAMIC braking controller for crane hoists has been announced by The Electric Controller & Mfg. Co., 2700 East 79th St., Cleveland, Ohio. This controller is of the magnetic-contractor type, and is intended for use on crane, coal bridge, and bucket hoists.

It is stated that the new lowering circuit employed in this controller passes all the line current through the brake, releasing the brake instantly, and thus insuring faster crane movement than has hitherto been possible, more accurate control of short quick movements, and better ability to spot loads. Other advantages claimed for the controller are faster speed when lowering light loads or empty hook, reduced power consumption on all loads at all speeds, greater power return to the line when lowering overhauling loads, reduced peaks of current, lower heating on the motor, less contactor wear, fewer movements when inching for accurate stopping of load, and all these features obtained without the use of additional contactors.

Small Precision Lathe

A SMALL, self-contained, precision lathe has been brought out by the General Radial Drill Co., Cincinnati, Ohio. This lathe is suitable for truing armature commutators, chasing threads, making bushings, and other machine-shop work.

A feature of the new lathe is the Gibbs V-disk drive of graphitized micarta. This provides seven spindle speeds from 68 to 600 r.p.m. by means of a convenient hand lever, and operates the spindle shaft directly from the motor shaft without the use of belts. The drive is said to be free from back lash and slippage, permitting efficient power transmission. To allow precision work micrometer collars are provided on both the cross slide and top slide. The apron carries a large hand wheel for rapid traverse, a half-nut lever that permits longitudinal power feed, and a thread indicator for chasing threads.

The tail stock can be set over for taper turning; a hollow spindle, running on ball bearings, is bored ⅞ in. to permit chucking of long work. A ¼-hp., built-in motor of the repulsion-induction type for operation at 110 or 220 volts a.c., or a d.c. motor for operation at 32, 110, or 220 volts, is furnished. The switch embodies a thermal-overload protector.

Interlocking Safety Switch Condulet

CROUSE-HINDS CO., Syracuse, N. Y., have placed on the market a new condulet for use with small portable electrical appliances, such as tools and hand lamps. This type F.S.Q. interlocking, safety-switch condulet is said to be particularly adapted for locations where dust and gases are present. The device is furnished complete with a tumbler switch, a vaporproof cover, a Hubbell 3-pole, twist-lock receptacle and plug, and a cast feraloy door.

The switch is a standard 20-amp. 2-pole, single-throw tumbler switch, and operates in a vaporproof compartment. The switch-operating handle interlocks with the receptacle-compartment cover so that the cover cannot be inserted or withdrawn unless the switch is in the "off" position. In addition to the twist-lock feature of the plug, an adjusting screw is provided in the receptacle compartment cover so that when the cover is closed the plug cannot be pulled out of full contact by the cable, even though the twist-lock feature is not utilized. The plug is provided with an effective cable grip and strain relief.

DURENE

REG. U.S. PAT. OFF.

NATURAL, BLEACHED AND COLORED

YARNS

MAIN OFFICE

123 SOUTH BROAD STREET

PHILADELPHIA

Manning St.
HIGH POINT, N. C.

432 Fourth Ave.
NEW YORK

418 Franklin St.
READING, PA.

323 So. Franklin St.
CHICAGO, ILL.

James Building
CHATTANOOGA, TENN.

52 Chauncy St.
BOSTON, MASS.

HAMILTON, CANADA

LOS ANGELES

MILLS

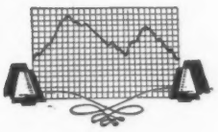
CHESTER, PA.

BELMONT, N. C.

ABERFOYLE MANUFACTURING COMPANY

Representatives in All the Principal Countries of the World

TEXTILE WORLD ANALYST



Quiet Fabric Styles Likely Through 1930

Light Weights and Small Effects Will Persist in Most Textiles, Says Mr. Peirce

FASHION tendencies in woolen and worsted dress goods for the coming fall and winter seasons are clearly in the direction of the following main points of the fashion compass, viz., light weights, quiet styles, small effects, simple weaves, refined colors, and a soft finish. This movement is a part of the tendency toward sheerness in all classes of fabrics, which has been increasingly apparent during the last five years, as has been demonstrated in the popularity of chiffons, marquisettes, laces, crepes, voiles, and, more recently, printed nets, all high-style features in dress goods.

Neat effects are enthroned in every class of fabric worn by well-dressed men and women. Pinhead dots, pinhead checks, and pin stripes are chosen to decorate the most expensive fabrics, fancy bags, cravatings for men's wear, and so on.

This tendency also is carried over into woolens and worsteds. In the finest cashmere woolens woven for dresses, ensembles, and coats, the fancy weaves are so simple that they are often not noticeable except on close inspection. This tendency is intensified in monotones. Chevrons, checks and block effects are used thus unobtrusively even in sheer and in semi-sheer weaves. Colors, too, are of a receding nature for dresses.

Although some prefer a semi-lustrous finish, there is a marked tendency toward soft fabrics, of which cashmere first scored a notable success. Ostrich feathers have been introduced into fine French cashmere weaves and, since these fabrics have achieved popularity, feathers of Leghorn fowls have also been used successfully as a substitute for ostrich feathers.

The new broadcloths, so called, woven from fine wools in both ensemble and in coating weights, will score a success if the finish is of an exceptionally soft and subdued luster. Crepe weaves will be greatly extended in dress goods, since they have not yet reached the high-water mark for profitable selling in this country.

WOOLEN COLORS FOR FALL

Novelties — **Yellow oranges, shrimps deepening into dark rusts. Mallow pinks, deepening through aster purples into dahlias. Mustards and olives. Bright King blues, soft pottery blues. Dark, grayed, reptile greens, dark bluish greens. Light and medium beiges. Shades of mode, mouse, and smoke grays. Brilliant purples, wood violets, and raisin tones. Chartreuse, greenish yellows. Ashes of roses.**

Staples—**Dark chocolate browns, shading up through beavers to tans. Blues, from deep navies up to powder blues and baby blues. Reds, from deep wines, cardinals, garnets, corals, etc., up to baby pinks. Greens, deep blackish shades graded up to moss, almond leaf and emerald. Smoke and mouse grays. Reddish purple, lilac.**

●

This instalment of the Analyst has been prepared especially for TEXTILE WORLD by Eugene Franklin Peirce, Color and Fabric Editor of the *Dry Goods Economist*. Once each quarter the Analyst appears in the form of a style forecast of fabrics. All other weekly issues will continue to consist of analysis and forecast of conditions in the textile industry, prepared, as hitherto, by Dr. Lewis H. Haney, Director of New York University Business Research Bureau.

TWEEDS HOLD THEIR PLACE

Scotch and English tweeds continue to hold a prominent place in textiles, due, in part, to the broad scope of color mixtures for which the Scotch and English have long been known as leaders. Only recently, in one of the largest yard-goods departments in the United States, the writer counted 200 odd nearly full pieces of Scotch tweeds for dresses, suits, ensembles, and coats.

In the preparation of collections, however, color ranges may be reduced, since two-color effects and solids are to succeed multicolors, according to the present trends. It may be said that solid colors made a distinctive gain in dress goods last year, since new and delicate pastel colors were successfully introduced and featured by makers-up and by dressmakers.

THE PILE FABRIC FIELD

Pile fabrics look promising for the coming fall and winter seasons. Present demand by dressmakers for velvets and for velveteens is one indication of this probability. Though basically fall fabrics, both velvets and velveteens have already been favored to some extent by makers-up of high-styled garments, and this present tendency will be intensified as the seasons unfold. Leading producers of velvets and velveteens are now presenting collections for present and fall delivery.

In velvets, erect-pile weaves, such as velours de Lyon, will gain ground for dresses, costumes, suits, and coats, since they lend themselves to the making of high-style garments now being promoted by French model houses and American costumers. Transparent velvets will still be retained, however.

RENAISSANCE OF JACQUARD SILKS

In silks, weaves long known as staples are again presented bearing new names. "Tribouline" and "Lisette" have both been bestowed on an unusually sheer crepe de chine, and a construction of silk and wool appropriate for tailored dresses or ensembles formerly known as Rashanara, now appears in Paris as "Flamingo" and in New York as "Mon-

AMERICAN
YARN & PROCESSING COMPANY

Main Office and Mills

Mount Holly, N. C.

MERCERIZED YARNS

High Grade Combed and Carded
All Counts and Put-ups

Sales Representatives
For Northern States and Canada

WATERMAN, CURRIER & CO., INC.
Boston, New York, Philadelphia
Chicago, Reading, Pa., Utica, N. Y.

H. B. KETCHUM
Mgr. Exporting Dept.
Mt. Holly, N. C.

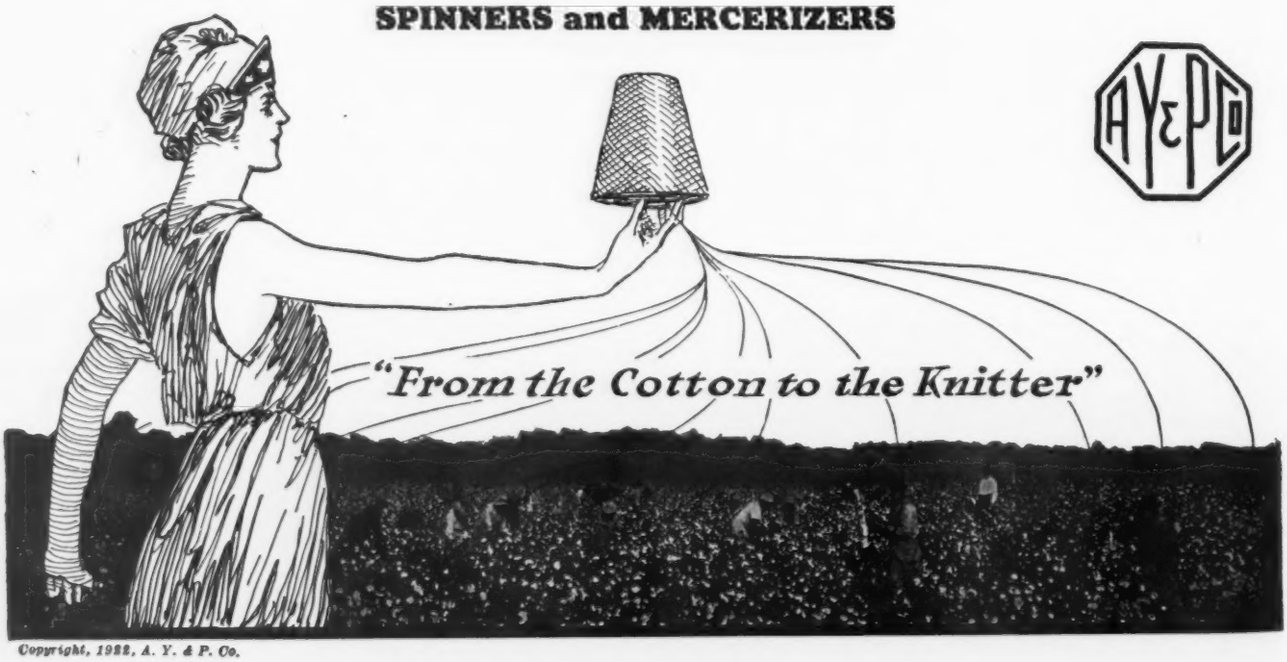
H. B. ROBIE
93 Worth St.
New York

For Southern Territory

TOM MOORE
502-3 Provident Bldg.
Chattanooga, Tenn.

E. J. HOLBROOK
High Point, N. C.

SPINNERS and MERCERIZERS



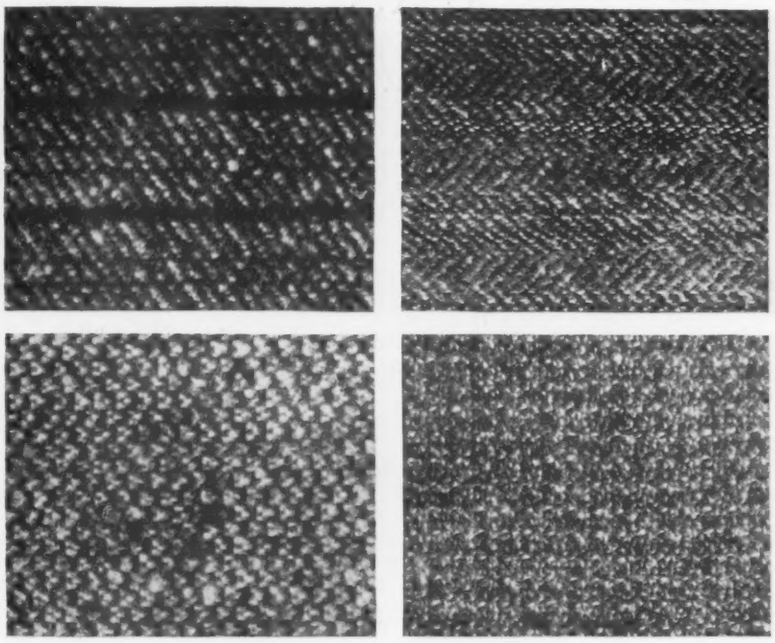
Copyright, 1922, A. Y. & P. Co.

tana." Flamingo appears both plain and in printed dots.

Viewed in a large way, however, the notable change in weaves is a renaissance of jacquards. Jacquards are reappearing in French collections of metal fancies, chiffons, and most of the novelty fabrics woven in Lyons. It should be noted that monotones are outstanding.

Cotton Dress Goods

Manufacturers of cotton dress goods whose outlet is large are already showing collections of patterns and colors appropriate for the coming fall and winter seasons to wholesalers, makers-up, and catalog houses, who from necessity start the fall season at an early date. As formerly, cotton goods have gone to woolen dress goods and coatings for weaves, patterns, and colorings, with tweeds leading the procession. Printers of cotton dress goods, however, are breaking new ground in the development and successful distribution of moire-patterned cotton broadcloths, which are featured in the new collections.



Typical Woolens from New Showings

Simple Patterns Favored

In designs for all materials today fashion has adopted the simplest patterns known since the dawn of civilized life. Wherever silks, woolens, worsteds or cottons are printed, dyed, or woven at present, dots, hair-lines, chevrons, and pin-check squares appear in the weave, dyed in a solid retiring color.

Spring Colors in Women's Wear

According to the dressmakers in Paris, the last official words in colors at spring openings, are as follows:

The leading houses sponsored pure pastels only a few degrees removed from white, viz., pale tones of peony, nile green, yellow, aquamarine, blue, and mauve. Beiges were in every collection, and white ranked next to black in volume according to competent observers.

Various tones of purple and violet, brilliant greens, geranium and flame red, and soft pinks were widely shown. Jean Patou chose shades of opalescent pink, sulphur yellows and chocolate browns. Chanel featured jade greens and shades of geranium reds and *faience* blues. Lucile Paray adopted rose grays and hyacinth. Molyneux sponsored *pervenche* purples. Maggy Rouff chose Monaco, a dark wisteria, for a feature color. Lanvin's chief colors were geranium, Persian pear and flame red. Vionnet showed a preference for emerald green, shrimp pinks and Japanese coral. Lelong inclined to bright willow greens. Augusta Bernard featured one of the new bright royal blues and a reddish purple. Schiaparelli presented bright golds.

Men's Wear Trends

In men's wear, one prominent manufacturer reports that the demand for cashmere fabrics has yielded first place to worsteds, since prices for worsteds are less than for cashmeres. Another nationally known clothing organization, which has passed the half century mark of progress, also notes a growing tendency toward worsteds, cheviots, and Scotch goods, joined to an increasing demand for popular-priced garments.

In the primary cloth market, a trading down movement prevails, due to the recession of prices for domestic and foreign wools during the last year, and to the fact that a broad price recovery is not considered likely. Against the foregoing, however, there is a trading-up of qualities of $22.50 suits. Makers-up of these grades may now use fabrics of better quality than formerly. Observant clothiers now predict a renaissance of men's suits to be priced at $12.50, $15.50 and $19.50.

Plain colors, which are making a steady gain in both suitings and top coatings, will comprise one of the high-styled features for the coming fall season. Stripes are out of fashion in fine woolens. At the same time there is to be a renaissance of colors in suitings. Powder blues ranging in tones from a medium to a dark shade, principally the latter, blues brighter than navy, gray blues, and blue grays are certain to gain ground. Dark shades of garnet will be revived, and more interest will be shown in dark shades of wine red. Browns will make a gain in shops catering especially to the trade of young men. Touches of lavender are to appear if toned down in combination with grays.

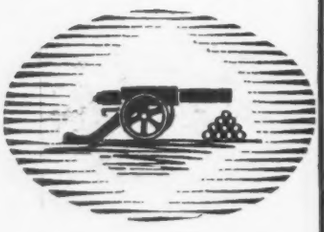
Fancy weaves in variety now established in French and English producing centers will be featured in black dressy overcoatings by American manufacturers, who note a fixed place for velvet collars and for black derby hats. A leading producer of fine overcoatings is featuring ratine weaves in variety, whitneys, dots, and other fancy surface weaves. Adaptations from rough weaves are now baptized "bumble bee," and look the part. Plain weaves also are confidently presented, however, as are meltons and plain fine mixtures in lightweight cashmere.

The Textile Trend

COTTON Textile Markets—Cotton goods buying slowed down after several days of sustained activity. Trading of previous week, however, did much to improve position of many constructions. Carded broadcloths came to life after a long period of disinterest. Prices generally are still a source of complaint, but sellers show growing unwillingness to sell contracts at current figures.

Wool Textile Markets

Business remains quiet, although conditions are generally more favorable for buyers to act with confidence. The American Woolen Co. made another revision in prices. Fancy worsteds and semi-staples in Depts. 1 and 2 were the only fabrics affected. Reductions range from 20 to 37c., compared with last fall, and 5 to 20c., compared with prices named earlier this month. A few women's wear houses were showing new lines, with the rest expected to follow. Factors look for reductions ranging from 10-15%. Lack of interest in wor-



AMAFLEECE
AMARAY

New!

These vitally different yarns are scoring a pronounced success. The products of our Amazon Mills, they are utterly *unlike* any other yarns on the market.

If you have seen Amafleece, you have remarked their lofty, fleecy softness. They are available in 125 bright new colors—solids and combinations, fast to light and washing. Numbers range from 8s to 30s single and ply.

Amaray is the same yarn twisted with rayon. It makes up into knit fabrics as smart as to-morrow.

These yarns must be seen to give you an idea of their possibilities in *your* goods. May we show you samples?

CANNON MILLS
INC.
PHILADELPHIA

New York Providence Boston
Reading, Pa. Chicago Utica, N. Y.
Chattanooga Kannapolis, N. C.
Hamilton, Ont., Canada

Sales Agents
EWING-THOMAS CORP.
Mercerized Yarns and Thrown Silk

AMERICAN ENKA RAYON

IMPORTED DUTCH ENKA RAYON
for the Southern States

CANNON YARNS

sted yarns; prices trending downward.

KNIT GOODS MARKETS

Underwear demand stressed moderate-priced lightweights; rayons quiet; cottons firm. Hosiery slightly improved, but prices were still weak. Outerwear call lighter; mills sold well ahead on bathing-suits and are in strong demand.

SILK TEXTILE MARKETS

Raw silk had better undertone; prices unchanged; fair broadsilk demand from broadsilk mills. Thrown silk firmer; buying light. Spun silk demand steady; shantung yarns in spirited call.

Woolen Meeting a Routine Affair

Little Encouragement Offered Stockholders for Early Betterment

BOSTON.

THE American Woolen annual report was released March 8 and appeared in our issue of March 15 but the annual meeting occurred Tuesday of this week. A rather depressing affair apparently, with some sharp criticisms from several stockholders and little encouragement offered regarding change for the better in the immediate future. William L. S. Brayton, a director, supported President Pierce in his attitude as to unsatisfactory prospects during the next six months, stating that in the cotton-textile industry conditions were "deplorable." Issue was taken by a stockholder to a statement in the annual report that "the percentage of goods returned was the smallest on record." Relating his investigations at several mills of the company he expressed his belief that at least a minority of the board of directors should be possessed of qualifications necessary to efficient manufacturing operations. There were present at the meeting 34 stockholders representing 58% of the capital stock of the company.

Less than 300 shares were sold at the Boston Stock Auctions this week, of which amount the Berkshire Associates accounted for 135 shares, the common selling at 20 and the preferred at 75, the common stock making a loss of 5⅛ points. Average price of 50 New England mill shares, Fall River and New Bedford mills, stood at 56.90, as compared with 59.83 three months ago.

AMERICAN WOOLEN ANNUAL MEETING

At the 31st annual meeting of the stockholders of the American Woolen Co. held in Springfield, Mass., March 25, Andrew G. Pierce, Lester Watson and William B. Warner, the last named appointed to the board on March 3 last, were re-elected directors to hold office until the fourth Tuesday in March, 1933. Stockholders also re-elected William H. Dwelly, treasurer and clerk. Following the stockholders' meeting, directors re-elected all other officers. In response to an inquiry from a stockholder as to the outlook for business, President Pierce said: "Conditions in the textile industry are not good, and I do not look for good business in the first six months." Asked concerning what effect the tariff would have on the company, Mr. Pierce said "The tariff is in such a jumbled mess it is pretty hard to tell how much it will render."

PEQUOT MILLS DIVIDENDS

The Pequot Mills, Salem, Mass., the world's largest producers of sheetings, have declared the regular quarterly dividend of $2 per share payable April 1 to stock of record March 24. During the last 20 years these mills have paid an average of $13.19 per share annually, including extra cash dividends distributed from time to time. The regular cash dividend average for the 20 year period was $11.25 per share. The current declaration brings the total cash paid per share since 1910 to $278, of which $53 was in extras. In addition the company, in October, 1923, declared a stock dividend of 100%, increasing the number of shares from 30,000 to 60,000. The annual report of the company made public in January showed a surplus of $4,597,438, the net worth of the corporation being placed at $10,594,738.

Other New England cotton plants which have had a high and unbroken line of dividend payments during the last two decades include: Bates Mfg. Co., Lewiston, Me.; Berkshire Mfg. Co., Adams, Mass., now merged with Berkshire Fine Spinning Associates; Dartmouth Mfg. Co., New Bedford, Mass.; Pepperell Mfg. Co., Biddeford, Me.; Pierce Mfg. Co., New Bedford, Mass.; Sagamore Mfg. Co., King Philip Mills and Union Cotton Co., Fall River, Mass.

BERKSHIRE ACQUIRES KING PHILIP

Stockholders of the King Philip Mills, Fall River, Mass., have approved the recommendation of directors to transfer the property of the corporation together with $1,125,000 of the liquid assets, to the Berkshire Fine Spinning Associates, Inc., in return for 11,250 shares of the preferred stock and 48,625 shares of the common stock of the latter organization. The balance of the liquid assets is to be converted into cash and distributed to King Philip stockholders, the return being estimated at not less than $40 per share. The vote was 16,554 shares in favor and 857 shares against acceptance, with 62 ballots cast.

GOOD YEAR FOR BANCROFT & SONS

Joseph Bancroft & Sons Co., bleaching, dyeing and finishing, Wilmington, Del., and Reading, Pa., report for the year ended Dec. 31, 1929, consolidated net profit of $580,992, after depreciation, interest and federal taxes, equivalent after 7% preferred dividend requirements, to $3.35 a share on 113,762 no par shares of common stock. This compares with $355,935, or $1.53 a share on 99,961 common shares in 1928.

U. S. FINISHING EARNINGS

The U. S. Finishing Co., New York City, reports for year ended Dec. 31, 1929, consolidated net profits after depreciation, interest and federal taxes, including earnings of subsidiaries, of $833,091, equal after preferred dividends to $4.51 per share on 121,200 shares of common stock. These profits compared with $631,828 in 1928, equal after preferred dividends to $2.85 per share on like number of common shares.

SACO-LOWELL BIG EARNINGS

For the year ended Dec. 31, 1929, Saco-Lowell Shops, Boston, Mass., reports net profits after all charges of $1,004,034. After allowing for normal year's dividends in the first and second preferred, this profit would be equal to $13.49 per share on 62,575 shares of common. The 1929 profit compares with a loss of $892,861 in 1928.

BOSTON STOCK AUCTIONS

The following sales of textile shares were made at Wednesday's auctions:

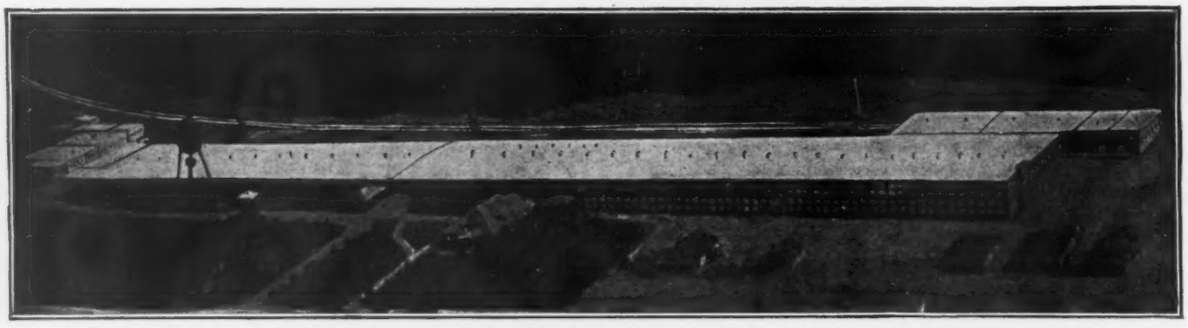
Shrs.	Mill	Par	Price	Change
50	Samoset	100	17½	—1½
23	Nashawena	100	25¾–½	+4¼
11	Naumkeag, ex. div.	100	88½	—1½
30	Associated Textile	....	35–36½	....
10	Amoskeag Co., pfd.	100	67½	—1
5	N. E. So. com.	....	2 for lot	....
2	Parker Mills	100	4½	....
35	Berkshire Associates, com.	....	20	—5½
99	Berkshire Associates, pfd.	100	75	....
265	Total			

INCREASE IN JANTZEN SALES

Sales of the Jantzen Knitting Mills, Portland, Ore., for the six months ended Feb. 28, 1930, were $3,191,900, compared with $2,505,789 in the corresponding six months of previous fiscal year, an increase of $686,111, or a little over 27%.

SOUTHERN MILL STOCKS QUIET

The market for southern cotton mill shares remained quiet and inactive for the week ending March 22, with only minor changes in quotations as compared with the previous week, according to the weekly market letter furnished by R. S. Dickson & Co., Char-



Spinning Mill, Lincolnton, N. C.

Announcement!

PICOT tops at nearly ONE-HALF (½) the cost of silk.

Many of our full-fashioned hosiery customers are now using with very good success, our high-grade COMBED SEA ISLAND MERCERIZED GASSED Yarn dyed in INDANTHRENE colors for their picots and striping instead of expensive silk.

This yarn is spun from the finest Sea Island cotton, making it very strong, smooth and with an exceptional high lustre. It is also being used with marked success in making of shadow clocks. We can supply this yarn in counts from 50/2 to 140/2.

If you are making picot tops or shadow clocks, send for a sample cone today for a trial—we are sure you will be very pleased with the results.

MONEY SAVED IS MONEY EARNED

BOGER & CRAWFORD

"From the Cotton Field Direct to You"

J. and E. Venango Sts.
PHILADELPHIA, PA.

lotte, N. C. A representative list of 25 common stocks fluctuated little during the week, although the trend was downward and the average in bid price for the group lost 56c. a share. The weekly closing average stood at $81.80, or a net average loss of $4.48 a share since Jan. 1 of the current year, and a loss of $16.28 for each share since a year ago. A number of stocks traded in for the week included China Grove, Rowan, Marlboro, National Weaving, Flint Pfd., American Yarn & Processing Pfd., and Hunter Mfg. & Commission, Pfd.

Textiles of N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Mar. 26.

	High	Low	Last Sale	Net Change
Adams Mills	29⅛	25	29⅛	+5⅞
American Woolen	15⅝	13⅜	15	+1⅛
American Woolen, pfd.	39¼	37	38⅜	— ⅜
Belding-Hemingway	5⅜	5⅛	5⅛	— ¼
*Blumenthal	38⅜	37¼	38¼	+1⅛
Botany Mills, A	4⅜	4⅛	4⅛	+ ¼
Cannon Mills	33	31⅛	31⅛	—1⅞
Collins & Aikman	32½	29⅛	29⅛	—2
Consolidated Textile	1⅛	1⅛	1⅛	— ⅛
*Courtaulds, Ltd.	13⅛	12⅝	13⅛	+1
Duplan Silk	18⅛	18	18	....
Durham Hosiery, pfd.	52	52	52	—1
Gotham Hosiery	27⅛	24⅞	27⅛	+1⅛
Kayser, Julius	38⅛	35¼	37⅞	+ ⅛
Kendall, pfd.	89	89	89	+3
Mallinson	12¼	11	11	....
*Mock-Judson	25	24	24⅞	— ⅛
Mohawk Carpet	26⅜	25⅛	25⅛	—1⅛
Pacific Mills	27	26⅛	26⅛	— ⅛
Phoenix Hosiery	15⅛	13	14	+3⅛
Real Silk Hosiery	64⅞	59⅛	64	+1⅛
*Tubize	130	125	125	—5
United Piece Dye Wks.	30⅛	30	30⅛	+ ⅛
Van Raalte	19¼	18⅛	18⅛	....

*Listed on Curb.

New Bedford Dividends

New Bedford, Mass.—For the first quarter of 1930, New Bedford mill corporations paid out the sum of $471,122.50 on a capital of $52,166,948, the average amount per share approximating 94c. Of this total amount, Nonquit disbursed $240,000 in partial liquidation of the capital, and Manomet is paying $37,600 in final liquidation. The rates and amounts distributed in the first quarter follow:

Corporation	Capital	Rate	Amount
Acushnet	$1,600,300	..	.....
Beacon, pfd.	1,216,500	1½	$18,247.50
Booth, com.	852,800	..	.....
Booth, pfd.	344,100	..	.....
Bristol	1,000,000	..	.....
City	187,500	..	.....
Dartmouth, com.	2,400,000	1½	36,000.00
Dartmouth, pfd.	200,000	1¼	2,500.00
Gosnold, pfd.	825,000	1½	12,375.00
Grinnell	1,500,000	..	.....
Hathaway	1,600,000	1	16,000.00
Holmes, com.	600,000	..	.....
Holmes, pfd.	600,000	..	.....
Kilburn	2,250,000	1	22,500.00
Manomet	(A) 8,000,000	47/100	37,600.00
Nashawena	7,500,000	..	.....
Neild	1,200,000	1½	18,000.00
N. B. Cotton, pfd.	750,000	..	.....
Nonquitt	(B) 4,800,000	5	240,000.00
Pierce	600,000	4	24,000.00
Potomska	1,800,000	..	.....
Quissett	2,000,000	1.25	25,000.00
Soule	1,260,000	1.50	18,900.00
Taber	1,600,000	..	.....
Wamsutta	6,000,000	..	.....
Whitman	2,280,748	..	.....
	$52,166,948		$471,122.50

(A) In final liquidation.
(B) In partial liquidation of capital.

Better Demand for Cotton Yarns

Mercerizers Adjust Prices To Lower Combed Basis

Philadelphia.

For the first time in several weeks, improvement is to be reported. Demand had widened, bringing a larger number of manufacturers into the market and individual sales have expanded; the average sale two weeks ago was less than 5,000 lb., while this week the average has increased to more than 10,000 lb. In addition, manufacturers have been willing to make commitments running until next August. This in itself is a sign of definite improvement in the sales yarn situation.

The underlying cause of the change, which still leaves much to be desired from the seller's standpoint, has been the strength displayed in the raw material market, which advanced a cent and a half from the low. Yarns, however, have been having difficulty in keeping abreast of this advance in cotton; at present yarns in carded qualities are under cotton, and spinners margins are smaller than they were before the turn in raw material.

Yarn Prices Strengthen

The low point reached in 20s-2 warps of ordinary quality was 28½c. This week this count has been moved at 29½c. and 30c., showing an upturn of a cent or slightly more, while the raw material has advanced a cent and half. The same situation is to be found in carded knitting counts, which are selling this week on the basis of 26c. for 10s ordinary grades comparing with a low reached of 25c. Small quantities only were reported sold at that figure, the bulk being sold at 25½c. Thus the upturn in carded knitting yarn is less than a cent, while cotton has increased more than cent and half.

Even this does not entirely show the position of spinners with their raw material costs. When cotton futures were quoted at 14.50c. it did not mean that carded spinners could obtain cotton for that figure. When they desired to buy, it was necessary for them to pay a premium for the grade and staple wanted, making their actual cost considerably above that of the futures market. This condition still prevails, and should be taken into account.

To off-set their unfavorable position, spinners have taken the only course left. They have curtailed their spinning operations to a greater degree and in larger number than can be remembered at any time heretofore by veterans in the business. Carded spinners have reached a point never before agreed upon by a large number. They have come to realize that only through general curtailment of supplies can they save their own position, and for this reason indications are more favorable in this period of dullness than in any other in the past.

Mercerized Yarn Reductions

Combed spinners have been lowering their prices each week in accordance with the futures market and as a group are in a more favorable position in respect to spinning margins than are their carded-yarn competitors. For the first time mercerizers have reduced prices, bringing prices of processed qualities down to a proportionate basis with the lower combed-yarn market. Reductions in mercerized, which were made effective March 24, were from 3 to 5c. depending on the count, 60s-2 being lowered to 78c. from the former 82c. level.

There has been price-cutting in mercerized qualities as in carded and combed during recent weeks, and to many manufacturers the new price list announced will be of little benefit, since they have been able to buy at such prices for the last few weeks. Whether price-cutting will begin at the new level remains to be seen, but reports on Tuesday indicated that at least one large factor was quoting slightly under the new price level in an attempt to book new business. This is difficult, and both processors and combed spinners catering to mercerizing trade report that, not only is new business quiet, but they are not obtaining specifications on old contracts.

●

New York.—Cotton yarns continue to move at about the same rate as has been averaged the last few weeks and no improvement or slump is looked for. The hosiery market is quiet, weavers are not operating with any confidence, and the insulating trade has been, and will continue for a time, running on reduced schedules. The recent interest in cotton underwear has not developed sufficiently to have much effect on the market for these yarns but is worthy of consideration. Until more activity is noticeable in the markets of yarn consumers it is useless to look for any increased purchases of yarn beyond the very slight improvement which has been in evidence since the February lull. The one factor which might cause activity is advance purchases by consumers and this is unlikely.

During the last week there were a number of fairly large orders placed, some of them coming in unexpectedly, but sellers do not believe that they indicate any trend in the market. There has been some discussion of ruinous prices but the instances have been

ACELE BULLETIN NO. 8

exceptional

wet-strength

The greater wet-strength of **ACELE** is a real benefit to the weaver, the converter and the ultimate consumer.

For the weaver who sizes his yarn, **ACELE'S** wet-strength means fewer breaks on the slasher, and more perfect yards from the loom.

Undue tension, during finishing and dyeing, frequently causes wet stretch in some yarns, with subsequent shrinkage and possible displacement of thread. **ACELE** solves this problem.

And wet-strength is only one of the many reasons why we urge you to investigate the possibilities of **ACELE**—the new and better acetate yarn. Tell us your problems.

ACELE Division, Du Pont Rayon Co.
2 Park Avenue · New York City · LEXington 0022

BULLETINS OF OUR PROGRESS WILL BE PUBLISHED HERE REGULARLY

isolated and the spread between high and low quotations is not as large as during the first part of the year. Prices are at a level which does not allow much, if any, leaway in price cutting in carded yarns.

Reductions in the price of mercerized yarns has created some talk that the large processing plants are pursuing the same policy that they followed last August when quotations on mercerized yarns were lowered many weeks before a compensating decline took place in combed yarns. Analysis of the figures, however, reveals the fact that the spread between the combed and mercerized quotations has recently been greater than might be considered normal. Taking 40s-2 as an example, the cut in mercerized rates last August placed this number at 66c. as against 55c. for combed yarn, a differential of 11c. The present revision places 40s-2 mercerized at 65c. against 51c. for combed yarn. Quoted rates for mercerized yarn have not been changed in sympathy with combed rates since the first of the year.

●

BOSTON.—The stronger position achieved by cotton has had some effect in breaking the inertia of the market, and handlers of yarns are showing more confidence in going after business. Increased business, though still in restricted volume, is arriving from weavers, knitters, converters, and industrial users, at firmer to slightly better prices than a week ago.

It cannot be said that any substantial development of bullish sentiment has occurred. The strong rally in cotton was very encouraging, but in the background lurk formidable bearish factors connected with the over-production that has taken place and the knowledge that the supply of cotton is large at a time when curtailment is proceeding and export trade is still in the doldrums. Spinners, nevertheless, have shown a stiffer attitude, and, while still on the defensive, are less pliable to the demand of dealers for concessions to close deals.

Lack of real interest from weavers and knitters continues a market feature. Some big buyers are sounding out the market, but there is nothing very tangible in results. On the recent low cotton market some buyers did a little shopping at attractive prices, and spinners needing orders to keep their spindles running met the market at that time.

●

CHARLOTTE, N. C.—Activity in carded and combed yarns in the Charlotte-Gastonia center has been spotty during the last few days, with practically every order specifying immediate or early delivery. Apparently buyers are confident that deliveries of their yarn requirements can be obtained without serious delay from the spinning mills or warehouses in northern cities.

Although recent improvement in raw cotton prices imparted a stimulating influence in the gray yarn market, the volume of sales during the last two weeks has not increased sufficiently to be looked upon as satisfactory, according to representative dealers. No individual inquiries or contracts for more than 100,000 lb. were reported in local circles. If the raw cotton market settles down and remains fairly steady for two or three weeks, it is thought that consumers will be inclined to place contracts for several months ahead, and one dealer feels that, with continued strength in raw material, the volume of yarn sales in April should be substantially increased.

There was no apparent change in the combed yarn situation and prices quoted by spinners of the Gaston County area were at the same levels existing for several months. Taking into consideration the high premium which combed spinners are forced to pay for white cotton, and the fact that their plants are curtailing an average of about 30%, it is evident that spinners' margins are non-existent in the present market, and no reduction in the price of combed qualities is anticipated in the near future.

Knitters were said to be about 20% behind delivery dates in providing shipping specifications for mercerized yarn on existing **contracts.**

Carded qualities were sold this week on the basis of 30 to 31c. for 20s-2 and 35 to 36c. for 30s-2.

Worsted Yarns Without Interest

Lack of Confidence in Market Curtails New Business

PHILADELPHIA.

ALTHOUGH spinners believe that wool and worsted yarns are as low as they will go, or very nearly so, they have been unable to convert manufacturers in weaving or knitting lines to this theory, and the market is duller than it has been at any time this year. If a manufacturer has goods orders requiring 5,000 lb. of yarn, he will only buy 2,500 lb. of yarn at a time. When he has no goods orders, he will not consider yarns at all.

Many manufacturers as well as spinners believe that prices are dragging on the bottom, but they have no incentive to act on this assumption. Their own customers are delaying buying goods, the goods market being even more conservative in making new commitments, and until this whole market structure, which many in the trade are now looking at from a world wool price basis, becomes more stable, there is little chance of trading becoming more active.

YARN PRICES FOLLOW WOOL

Spinners are adjusting prices as quickly as changes occur in the raw material, and the yarn market as a whole shows that spinners' margins are no wider than they were several months ago when wool was on a much higher basis. Sellers are making even greater concessions than they did then in numerous instances, and spinners are to be found who are willing to sell on a lower basis than is justified by the price of the raw material in order to obtain business to keep a portion of their machinery running.

The new season in men's wear has had an unfavorable start, more so than many veterans can remember. Yet there is a concerted opinion among manufacturers that the entire season, when concluded, will show a normal volume of business for the fall season. This means that buying is only delayed, and once goods-buying gets under way, spinners will be rushed to get out the orders in the quickest possible time. It means to many that the latter half of the present season will be an active and rush period for both spinners and manufacturers.

Cut in prices of outerwear yarns, with 2-20s, 50s down to the $1.17½ level, instead of stimulating trading, has had the opposite effect, and manufacturers are inclined to operate more cautiously than before, waiting, as they say, for another 5c. cut. Three-eights grade yarns were the softest, and reductions in counts spun from that grade the most drastic. This has caused buyers to take less interest in this grade than in ¼-blood or fine counts.

One indication that prices for the time being are low as they are apt to go is seen in the fact few if any spinners are cutting new prices of outerwear counts, as is seen in weaving even at present time; on the contrary, the quoted price of $1.17½ for 2-20s, 50s is being closely followed by all. Dyed price of this count is $1.35.

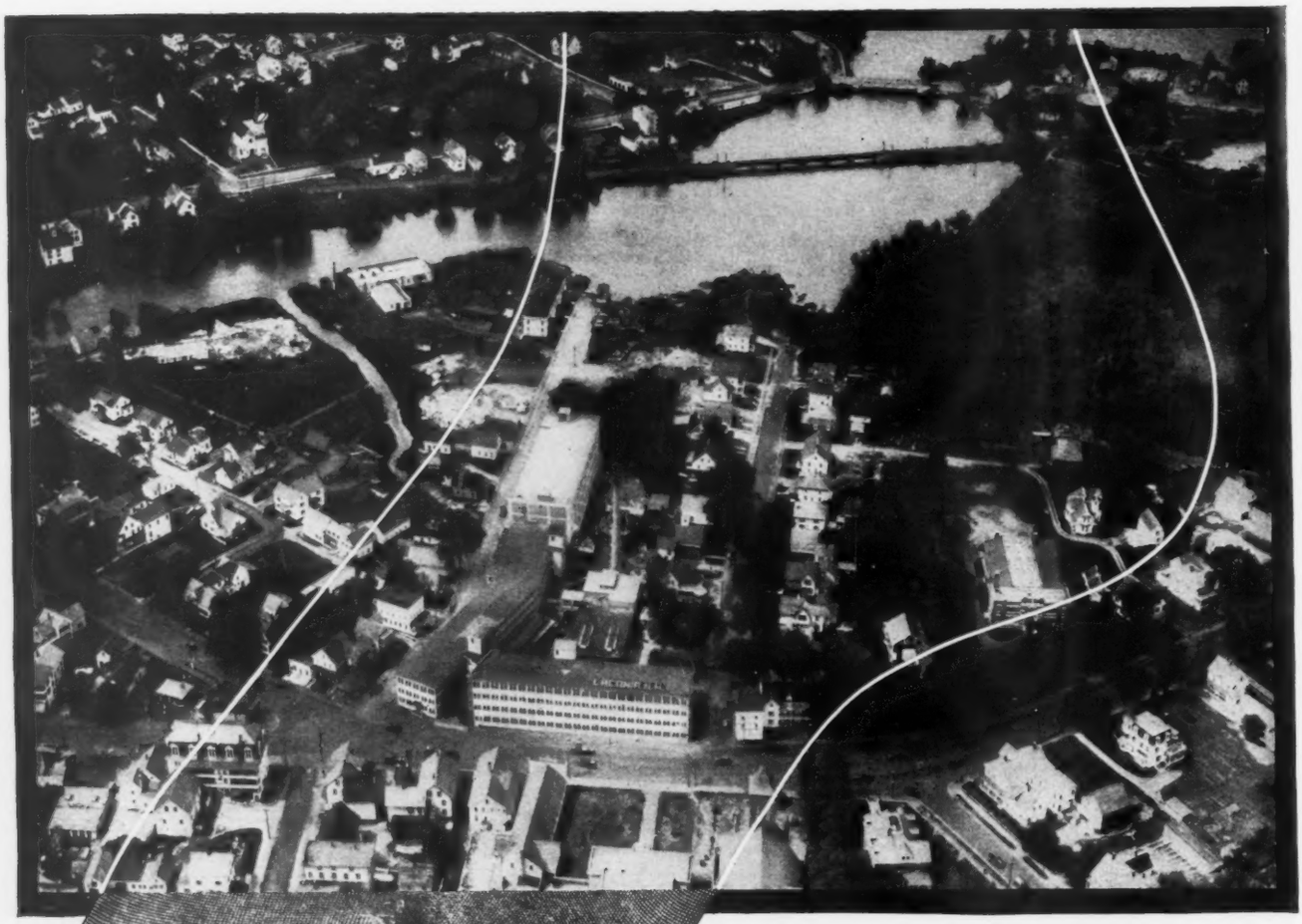
French-spun yarns, while weak, have been dropping more slowly than English-spun qualities, and in general show slightly more resistance. This week French spinners have adjusted prices of men's wear mixtures further, many now quoting $1.75, 2½c. lower than last week. Little or no change has been made by French spinners in 2-40s, 64s, knitting which is quoted at $1.70 in most instances, the same as last week.

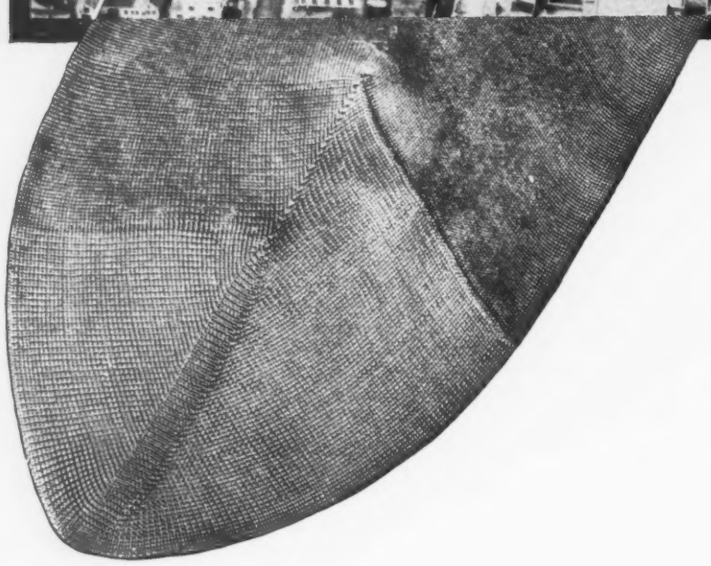
◆Thrown Silk Prices Firmer

THROWN silk prices were unchanged, but firmer. Broadsilk manufacturers increased their commitments slightly. They were still averse to future coverage. All orders were small, and for nearby shipment. Throwsters were in confident mood, and looked

HOME OF THE MODEL K

at Laconia, New Hampshire





The New
"GUSSET TOE"

THE new 340 Needle K stocking with Gusset Toe is the vogue among smartly dressed women.

Established 1865

SCOTT & WILLIAMS

Incorporated

366 BROADWAY, NEW YORK, N. Y.

for a steady improvement.

The Japanese action in stabilizing raw silk had a favorable effect on thrown yarn, and some active buying was expected next month. Few of the broadsilk mills have more than enough yarn on hand for immediate production; the fabric demand registered a slow but steady improvement, and this it is believed will necessitate increased production, calling for larger supplies of yarn.

Hosiery manufacturers continued their non-buying policy, and no early change was looked for at this end, due to the prevailing weakness in the hosiery market. Current thrown yarn demand stressed organzine yarns, with a lesser interest in crepes.

◆Spun Silk Steady; Prices Tend Upward

DEMAND for spun silk yarn held steady, and prices showed a slight upward trend. The week's business included numerous orders for 40/2 ply at $4.25 and 50/2 at $4.35. The sixties, single and double, both were stronger, though this was not general; some firms sold 10 and 15c. below these figures.

Broadsilk manufacturers showed increased interest in shantung yarns; shantung fabrics were in active demand, and the weavers were busy planning specially attractive numbers to tie up with "Sport Silk Week," next month. The tone was confident, both at the buying and selling end. Spun yarn stocks were normal; there was no difficulty in getting shipments. Orders were spot and nearby, and of fair size.

Spinners reported a good turnover during the first quarter, and indications were that the total business would be well over that for the same period last year. It is too early to be specific on this point; certain mill men who were questioned, said their sales were "at least as good as the first quarter last year."

Woolen and worsted manufacturers placed little business. The new woolen and worsted fabrics are mostly plain, and there is little silk used. These firms were not expected to be in the market for real quantities of spun yarn, for some time.

Rayon Price-Cutting Prevalent

Producers Sell Low to Make Sales in Dull Period, Is Claim

RAYON yarn orders were increasingly hard to get, this week, and reports of price-cutting were frequent. This practice was not confined to acetates, but included yarns produced by several processes, particularly viscose. Just what percentage of current business is being done on that basis, it is difficult to say, but indications are that price-cutting is on the increase.

At time of writing, the trade generally appeared to be rather expecting a downward revision of prices by producers. There was no basis for such a belief, except the instability which now exists and from which even the largest producers do not seem to be immune. The reports of the impending cut were so extensive that numerous manufacturers of rayon content fabrics have held back orders in anticipation of such a move.

Sales of executives of producing companies interviewed this week said a real softness prevailed, and one went so far as to claim that all producers but two were selling yarn below list prices. The temptation to cut prices to effect turnover is strong, it was pointed out, because demand is very light. Rayon producers are finding themselves in the position of trying to force sales on unwilling customers, and are ready to sacrifice at least part of their margin, to get business.

Little Business to Be Had

The consuming industries, with the exception of broadsilks, are placing little business. Rayon underwear manufacturers, normally one of the big outlets for synthetic yarn, have cut their orders to the minimum, and they do not expect to increase production to any extent before summer. Rayon underwear has had a poor spring, due, it is believed, to the consumer trend toward cotton garments for purposes of economy. Rayon flat crepes enjoyed a fair season, but the yarn demand from this line cannot compensate for the lull in other branches of the industry.

The policy of selling first quality yarn as seconds is being followed to a limited extent, mostly by the smaller producers but also by firms of considerable size. There was much debate in the rayon market this week as to the effect of this practice upon the industry. Numerous customers have expressed resentment, because they bought yarn at first quality prices, and then found that competing concerns in their own division later bought the same as seconds.

5c. Difference Involved

The producers point out that the difference in 150s (viscose) between first and second is only 5c., which they argue is not enough to make appreciable difference at the customer end. This argument does not seem very strong, as a good-size order would make the 5c. gain a considerable factor. Furthermore, it rather serves to strengthen the objection to the practice. If the 5c. difference is so negligible, why don't the producers hold to their quotations, and insist on getting list price?

Thoughtful observers who viewed the situation said the whole trend was an unhealthy one for the rayon industry. It marked a leaning toward another price cut, with the aim of stabilizing, and these individuals were emphatically of the opinion that rayon yarn should not be further reduced. "It is at rock bottom now," one sales manager said, "and the solution lies, not in a new downward revision, but rather in two policies—first, curtailment of output, and second, a firm stand and refusal to sell below the market."

◆Rise in Cotton Helps Wastes

Boston.

THE rise in cotton has had an encouraging influence in waste circles, and has already brought about an increase in the number of inquiries likely to produce business. The low prices mentioned on wastes a week ago have now disappeared, and, while it may not be safe to quote actual transactions, it can at least be said that the buyer has lost the advantage he possessed only a few days ago.

The waste situation is so closely tied up with the major industry that in the main it must share its fortune. This applies especially to all types of spinnable wastes, while in the case of the shorter unspinnable fibers, covering linters, picker, and some grades of fly, the general state of prosperity of the industry to which they cater will be the determining factor.

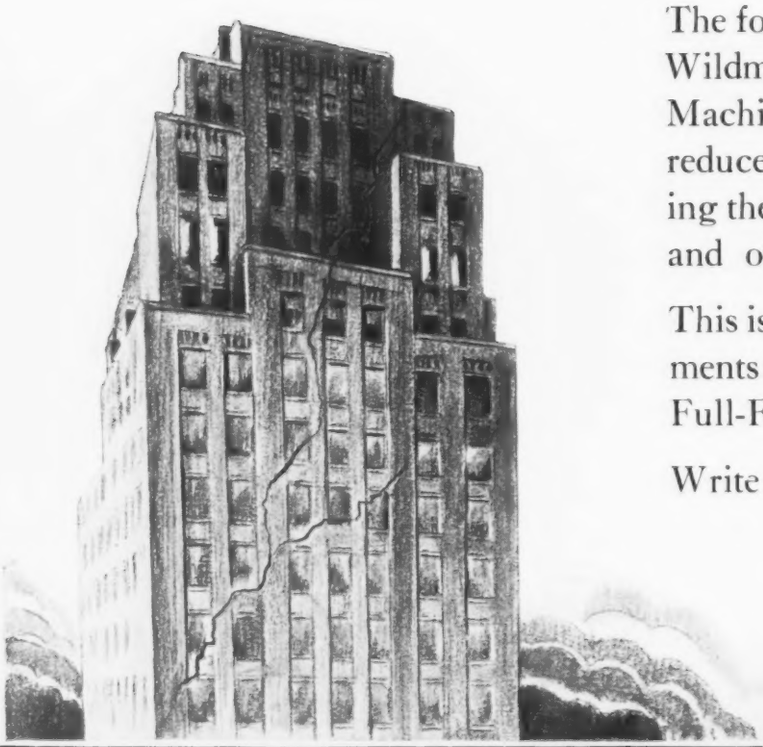
Materials selling at flat prices have shared in the cotton advance, which has been about 1½c. per pound from last week's low price. Throughout the depression, materials like peeler comber and strips maintained fully their percentage basis. The demand for strips is fairly good, but the stuffing materials, such as picker, fly, and linters, are still easy in price owing to the small consuming demand. Threads for machining are quiet, and prices still favor the buyers.

◆Rayon Waste Prices 1-2c. Off

RAYON waste prices continued weak, with bleached and thread waste registering a drop of 1 to 2c. However, the tone of the market was better, and dealers were in more optimistic mood. They reported increased interest on the part of the woolen and worsted trades. These manufacturers made numerous inquiries in the waste market during the week, and said their new fabrics of rayon content were being well received.

However, the 1930 woolen and worsted lines have not yet taken active hold, and manufacturers are proceeding cautiously regarding output until they get a stronger response at the buying end.

Constant vibration plus an inadequate foundation spell disaster



The foundation or base of the new Wildman Full-Fashioned Hosiery Machine is so heavy that it greatly reduces vibration, thus eliminating the possibility of disalignment and other hazards of vibration.

This is but one of the big improvements to be found in the Wildman Full-Fashioned Hosiery Machine.

Write for further information.

WILDMAN MFG. CO.
Full-Fashioned Division
NORRISTOWN, PA.

Rayon waste dealers were of the belief that the next two weeks would see a turn in their favor. Current buying was light and spotty.

There is little high quality waste available in the New York market, despite the slow buying. Imports have been light, and they brought low prices. the yarn being mostly of low-grade, according to the dealers.

◆Merino Thread Waste Market Problem

BOSTON

IN THE Boston market the wool waste situation is now less steady than it was last week. Prices are a little lower on most materials. Sentiment, however, is moderately bullish as to the future, and it is believed that consuming mills have been so long out of the market that their stocks must be exceedingly small. No change for the better can be recorded for the old-woolen-rag market. Mill demand for rags is so dull that graders are keeping as close to the shore as possible. Orders are very small, usually 3- to 5-bale lots. Were there any certainty of the 18c. duty becoming law, the situation might change over night.

Prices are tending downward in the spinning waste section, owing to large stocks of domestic and foreign materials. Fine white drawing lap, on the other hand, made an advance of about 3c. per pound, and the best quality is now quoted at 88c., showing a premium of 6c. per pound above the price of similar wool, clean basis. Card and burr wastes, though not in large demand, are nevertheless firm. The following quotations represent the price position on good materials at this time: Fine lap, 85 to 88c.; fine colored lap, 58 to 63c.; white, spinners' hard ends, 55 to 60c.; ¼-blood hard ends, 45 to 48c.; fine, colored, hard ends, 27 to 30c.; medium, colored, hard ends, 23 to 28c.; fine, white, hard wastes, 30 to 35c.; fine, white, carbonized burr wastes, 38 to 42c.

BRADFORD MARKET DECLINES

The Bradford market has had another decline in prices on threads, and the 64-70s quality is now quoted at 35c., or about 54c. landed at Boston and duty paid. The big slump in prices has staggered the Bradford merchants, many of whom are in for heavy losses. Most Bradford people in touch with the Boston market are now awaiting events. Consignments of all qualities of wastes have been dispatched, and are still being sent in the hope that they will be on the other side of the water before the tariff is put up.

Contracts made early in January show Bradford contractors to be about 25% on the wrong side. The cheapness of wool has depressed noils, wastes, and shoddies to an extent that would have been unthinkable only two months ago; and yet, compared with cheap scoured merinos available in London, they can hardly be considered to be below their economic value.

◆Top and Wool Spread Too Near for Profit

BOSTON

THE top market is quite spotty; demand is slow and the supply adequate, though probably there is no large surplus anywhere. The price situation is difficult of adjustment. It would be far from easy to get more than $1 for a strictly fine top, and yet, on the other hand, wool could not be bought, even on the current low level, to yield a reasonable margin for conversion. There is a smaller price spread between fine wool and fine top than there has been for a considerable period. Deliveries are holding up fairly well on contracts placed, probably, at a higher price-level. In mills making their own tops, conditions may be different, but for the independent combers there seems little else to do than to await a real stabilization in wool values and a larger demand for tops following expansion in the goods market for worsted fabrics for men's wear.

The market for noils continues quiet. The general turnover is small, and prices are firm. There is little evidence of any further decline, although this might occur should wools move to a lower level and consumer demand remain indifferent. The low level established in Boston precludes any large imports from either Germany or England. A fine 70s noil would cost at least 62c. to land in Boston duty paid, as compared with 55c. for a similar domestic noil. Miscellaneous noils are rather on the quiet side.

In the Bradford market the noil turnover continues to be very restricted, and the market is suffering from lack of American support. Quotations on all noils, which are at the low point for many months, are nominal on account of the small business offered. Contracts placed by noil merchants three to four weeks ago, at what seemed a very low rate, are dear today, it being impossible to obtain a profit on those prices. In the German market both clean and defective Australian noils are in the seller's favor, with the Cape noils steady. In the French market carbonizers are buying Australian Schlumbergers around 28c.

Cotton Market Is Firmer

Near-Month Covering Centers on May and July Positions

THE near month situation has practically monopolized the attention of cotton traders here again during the week. May and July short interests have shown every indication of uneasiness and have been covering or transferring their commitments to later months. A possibility that holders of May contracts, particularly those contracts which are supposed to be held here by the cooperatives, might demand deliveries during May has emphasized the relative steadiness of southern spot markets and the comparatively small supply of certificated cotton available for delivery in New York.

At any rate the advance which started after the break to approximately the 14c. level for May contracts in the New York market on March 10, has continued with May selling up within a few points of 16c. or about 2c. a pound above the recent low level. Southern spot markets meanwhile have just about kept pace with the advancing contracts, but at times during the week May has sold more than 35 points above New Orleans, that is to say at a premium of more than sufficient to cover the differential allowed the receiver of cotton on a New York contract delivered in the South.

SITUATION IS MOST UNCERTAIN

Naturally enough under these conditions the market has been full of vague conjectures or opinions as to the probable development of the near month situation. No doubt the interest in May contracts has been reduced considerably, but it must still be large in comparison with the stocks carried in New York, and after the May interest is once adjusted, the trade anticipates a tightening up of the position in July, providing there is no decided incentive otherwise in the new crop start. The May short interest has still another month before the first notice day on April 25 and then nearly another month before the final maturity of their contracts. The entire situation may be changed materially before then, but the strength of the near-month situation is having a sustaining influence which may possibly merge into a more general buying movement should the advance of the spring bring evidences of a materially reduced acreage.

Of course the May interest covering at its present rate will soon be liquidated and there will probably be less urgency in liquidating July until more is known of the new crop start. It is the latter, of course, which will determine the trend of end-season values. So far nothing conclusive has been learned with reference to acreage prospects. One of the private reports issued this week points to an average reduction of only 3.7%, but these figures, of course, are entirely preliminary and based upon supposed planting intentions. Some of the reports

When service is imperative...

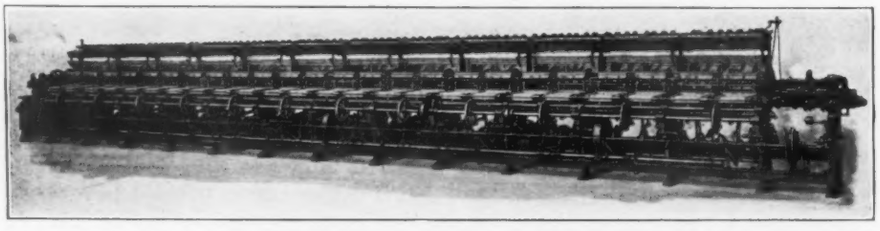
due to market changes

When Fashion says, "Make it this way," how soon can your mechanical equipment be ready to meet the changing demand? Are you off with the leaders or back with the tail-enders?

Since the first of this year we have received more than 500 orders for major attachments for the Reading Full-Fashioned Knitting Machine. To date, *more than 80% of these orders have been delivered and installed*

The secret of the ease and dispatch with which "Reading" machines can be equipped to meet market changes lies in their *standardization.* When our service men arrive at your mill with the attachments ordered they know what is to be done and how to do it. There is no "rebuilding," no special machine work necessary to adapt the attachment to your machines. Production is interrupted for only a few hours—not weeks or months—before your mill is turning out the advanced styles that bring top price.

TEXTILE MACHINE WORKS - - - - - *Reading, Pa.*



No one appreciates the standardized design of Reading Full-Fashioned Machines more than the mill-owner who has stood by with idle or obsolete machines while his competitors worked at capacity to meet the new demand.

reaching here from the South point to a larger reduction, and while the trade here is not generally expecting that the acreage will be cut to the extent advocated by the Federal Farm Board or its affiliations, it is generally expected to show a decrease of 7 to 8%.

Final Ginnings Report

The report of the Census Bureau on ginnings for the season was slightly under expectations in running bales. The bales weighed more than usual this year, averaging 509.5 lb. and while the crop in equivalent 500-pound bales was within less than 100,000 of the Government's December estimate, amounting to 14,821,499, the yield in running bales was 14,544,584 bales. This necessitated no material revision in ideas of the world's carryover.

●

Boston.—A sharp rally in cotton since last writing of $6 to $8 per bale has put a different complexion on the face of the market. Under normal conditions the position of cotton might now be fairly sound, but the participation of the Federal Farm Board introduces a disturbing element of uncertainty. The cotton outlook is still seen from opposing angles, and it is impossible to indicate the direction in which sentiment will finally move. There is, however, a tendency for cotton to become more normal, even though statistics covering exports, consumption, and stocks are not particularly bullish. The price advance, which has been well maintained, may be an indication of the definite future trend of the commodity. Some factors believe that unless an unforeseen element intervenes the trade may expect better times ahead.

Call Cotton Basis too Low

That cotton has sold on too low a basis is generally admitted, psychological considerations intensifying economic; but there is good reason why the market should be closely watched by prospective consumers. Large merchants are said to be carrying good-sized stocks, indicating that the short interest in the trade is unusually extensive. This is a technical position making, in the main, for price stabilization.

Buying interest is more active in New England cotton consuming centers, but selling pressure from certain shippers who are determined to liquidate regardless of cost has kept prices down and caused much irregularity in quotations. Price cutting upsets mill ideas of values on extra-staple cottons of medium staple length. Rejections by some of the New Bedford tire fabric mills have been heavy, and replacement purchases have run into volume. Some interest in selected shorter cottons is reported, more especially for good inch cotton and also for cotton ranging from 1 3/32 to 1 1/8 in. There has been more interest shown in Egyptian quotations this week, and occasional sales of good grade Egyptian Sak. have been reported, though not in large quantity.

●

Memphis, Tenn., March 24.—The feeling in the cotton market here is more cheerful; this due partly to the further recovery in contract values, and partly also to increased mill inquiry, a fair amount of which is resulting in actual business.

Demand has tapered off a little during the last two or three days, presumably because the further advance makes the price less attractive, but inquiry has increased. The two or three largest shippers here, who own most of the stock, are pushing sales, but are out of the market as buyers; these two or three large stocks are the main source of supply for smaller shippers, who are short the medium and better grades.

Unsold crop lots are unusually scarce, but a few crop lots and low grades represent nearly all the cotton remaining in first hands. Low grades, especially recent receipts, have not shared to any marked extent in the recent advance; basis on middling and better grades is about unchanged since contract values touched the low point for the season, but the low grades, especially nondescripts, which sold as low as 8 to 11c., can be bought now at very nearly such prices but are neglected.

Demand for Good Stock

Demand centers on cottons that are considered good stock at any time and which are susceptible of reasonably safe hedging. The undertone in staples is better, largely as a result of the improved position of the stock held by the staple association, but demand is extremely small, because southern mills are more interested in shorter cottons, and New England and export demand is lagging.

Final report on ginnings show 912,000 bales for the delta counties of Mississippi, the second largest crop ever produced, although the yield per acre was less than in 1925 and in 1926; seepwater, extending far back from the Mississippi River levee during the spring and early summer of 1929, reduced the average yield per acre materially.

The weather during the week was moderately favorable over most of the belt. Field work progressed normally. Planting has been started to the northern limits of the state in eastern Texas. Stands are excellent in the southwest.

Wool Jockeying for Firm Basis

New Domestic Clip and Colonial Surplus Furnish Handicap

THE wool market is still beating around for a firm basis, and the foreign markets are much less a factor than contracting operations. The National Wool Pool officials take the view that the organization has already performed a signal service to the growers. In their opinion, had it not been for the presence of the big pool in the field, Boston and other contracting centers would have tied up all the wool they wanted around 20c., and later in the year made a big killing.

Of interest is the fact that Philadelphia wool imports for the year to date are running neck and neck with those at Boston, while a year ago at this time the Boston import was 18,000,000 lb. ahead of Philadelphia. Imports of clothing and carpet wool into the United States are approximately 30,000,000 lb. smaller than they were at the same period last year.

Steady Basis Hoped For

The London sales to date have had no depressive influence on the local wool market, but have rather tended to confirm the opinion that wool is near a safe and steady basis, and that it might even become a profitable speculation for the long pull. This view of the wool market seems to meet with favor in manufacturing circles, and in the New York goods market. The lower level of prices made at the opening sale did little more than reflect the price situation already current in Bradford and discounted by the Bradford top market in advance of the auction. Since the opening day in London, the Bradford top market, always a sensitive barometer, has shown considerable firmness, and for the first time in weeks all grades have maintained their asking prices.

Fabric Markets Affected

Weakness in wool markets is a factor in unsettling prices in men's wear lines for fall. This situation has brought on much uncertainty as to the holding power or prices named by the larger factors in the trade when wool appeared to have become stabilized on a very low level. It is admitted that present conditions in the wool market and the position of raw wool in London and the Colonies and the over-production of wool and raw material in all the producing countries of the world are not favor-

TRIETHANOLAMINE is an odorless, rather viscous, hygroscopic liquid slightly yellow in color and boiling at 277-279° C at 150 mm. pressure. It possesses distinctive features of wide interest to the textile industry. • Triethanolamine forms soaps with the fatty acids of all common vegetable oils by merely mixing the acid and the base, no heat being required. These soaps are characterized by their

- 1. NEUTRALITY — pH about 8.6.
- 2. EASE OF PREPARATION.
- 3. HARMLESS ACTION UPON WOOL WORSTED AND SILK.
- 4. HIGH DETERGENCY.
- 5. STRONG EMULSIFYING ABILITY.
- 6. HARMLESS EFFECT UPON DYED STOCK.

Triethanolamine is the weakest alkali commercially available. Its alkalinity is about one-sixth that of ammonia, its pH 10.2. The low alkalinity is important in the more complete neutralization of oil acidity; for example, neutral or slightly alkaline oils for use in lubricating, soaking or knitting processes may be formulated by the simple addition of Triethanolamine or Triethanolamine soaps to the oil. Corrosion is thus eliminated and loosening of silk sericin is no longer encouraged. • When used for the fulling and scouring of wool or worsted piece goods, Triethanolamine oleate, because of its neutrality and softening properties, produces finishes not obtained with other soaps. • For further information, consult our technical division.

TRIETHANOLAMINE

CARBIDE AND CARBON CHEMICALS CORPORATION
Carbide and Carbon Building
Thirty East Forty-second Street, New York

Unit of Union Carbide and Carbon Corporation

PRODUCTS MANUFACTURED BY THE CARBIDE AND CARBON CHEMICALS CORPORATION

ACETONE	ETHYLENE CHLORHYDRIN
BUTYL CARBITOL★	ETHYLENE DICHLORIDE
BUTYL CELLOSOLVE★	ETHYLENE GLYCOL
CARBITOL★	ETHYLENE OXIDE
CELLOSOLVE★	ISOPROPANOL
CELLOSOLVE★ ACETATE	ISOPROPYL ETHER
DICHLOR ETHYL ETHER	METHYL CELLOSOLVE
DIETHYLENE GLYCOL	METHANOL
DIOXAN	TRIETHANOLAMINE
ETHYLENE GAS	VINYL CHLORIDE
VINYLITE★ RESINS	

★*Trade-mark Registered*

able to an early rally in domestic wool values. Increase in production which has occurred in recent years will probably not continue much longer, but any sharp reduction cannot be expected much before 1932. It is improbable that there will be in increase in the United States 1930 clip. Any decrease in 1930 will be the first decline in United States wool production since 1922.

Raw Silk Tone Firmer

Buying Is Still Light But Confidence Increases

RAW silk was firmer, and traders both in New York and Japan were more confident this week. Domestic firms were awaiting further word regarding the plans of the Japanese government to warehouse the surplus raw stocks, but meanwhile there was a fair activity among consuming industries. Broadsilk firms increased their orders, though they were still buying on a strictly hand-to-mouth basis; orders all were small and for immediate delivery. Importers were satisfied with the outlook. The past few weeks have marked a slow but steady strengthening, and this was considered a better sign than if there had been a sudden upturn. Fabric manufacturers were producing cautiously, feeling their way. Broadsilk demand has been steady, and the general prospects are for a gradual improvement.

ON THE EXCHANGE

The week was spotty and prices fluctuated considerably, but the price situation on the whole was good. April, June and August prices rose one to 3c., and March, May, July, September and October showed drops of from 2 to 8c. The week opened with futures firm, and demand active. Prices were slightly off in Yokohama and slightly higher in Kobe. Futures weakened in New York on March 20; heavy selling brought prices down, but the softness was not maintained.

Futures were quiet and steady March 21, and there was a firmer undertone. Broadsilk mills increased their interest, which strengthened the position of importers. The half-day business of Saturday was marked by a steady tone, with futures stronger both at home and in Japan. The firming trend was accentuated Monday and futures were strong; trading was light. Tuesday also was light, but prices held steady.

◆Outerwear Awaits Warm Weather

DEMAND for knitted outerwear has eased off perceptibly, but orders are so well ahead, especially at the bathing-suit end, that the lull has not caused any apprehension in the market. There is still a steady jobber and retailer interest in bathing-suits and fancy sweaters. Orders are smaller than last month, and reorders are coming in somewhat slowly. Mill agents who discussed the point this week attributed the quiet spell to the continued cold weather. Jobbers and retailers appear to be waiting for some mild spring days before they will resume large-scale buying.

CALLED NORMAL LULL

Worth Street factors thought that the lull was normal, and to be expected. The bathing-suit season started early this year, and a large percentage of the season's business was written in the first two months of the year. The decline in current contracts is regarded merely as a between-seasons lull, which will pass as soon as the weather warms.

The cold snap of the last week served to dull the interest of buyers in bathing-suits, and while they are still placing business, it is considerably less than the quantity placed in January and February. Recently published weather forecasts for the coming summer were to the effect that an early and hot summer is due. These predictions have not had any favorable effect on orders, as yet, as buyers apparently want to see the actual thing, namely, some really balmy days, before reordering.

◆Hosiery Outlook Improves Slowly

HOSIERY continued its slow progress toward a come-back. Producers of women's silk full-fashioned noted a slight increase in orders this week, all contracts being spot. Half-hose demand also improved slightly. Prices were still very weak; a buyer's market prevailed, and even the larger mills found great difficulty in holding to list figures.

It was evident that there is more distress merchandise remaining than has been supposed. One sales manager stated that, no matter what full-fashioned prices his men quoted, the jobbers and retailers invariably replied that they could buy lower from someone else. This situation appeared to be fairly prevalent.

SPORT HOSE BETTERMENT

Sport hose sold more actively, though here too orders as a whole were small, and buyers were in bargaining mood. Boys' golf hose was in moderate demand. Anklets continued backward, compared to this time last year, though some mills reported fair buying.

Easter business was light at all ends. Producers were hopeful that the weather would warm up, and thus stimulate interest in the spring and summer styles. An interesting feature of the week was the report by an important mill that women are buying the pastel shade chiffons quite steadily. Seamless hosiery was picking up slowly. The "bare leg" lines have not shown any real activity, according to several.

Underwear Call Strengthens

Cottons Very Active, But Rayons are Behind Last Year

CURRENT underwear demand leaned largely to the bigger firms. Those making standard brand garments, especially medium and lightweights, enjoyed a good week all things considered. Orders averaged up to last year, except at the heavyweight end, where buying was very sluggish due to the low price of cotton and a feeling of hesitancy among buyers.

STEADY CALL REPORTED

Cotton underwear sold steadily; the orders made up in quantity what they lacked in individual size. One representative corporation, ranking among the country's biggest, was receiving an average of 125 unsolicited orders a day, apart from the firm's business brought in through their sales force. These volunteer orders came from all sections of the country, California, Maine, Alabama, Washington, Arkansas, the Middle-West and even the Hawaiian Islands.

The orders stressed cotton garments first, and rayons second. Rayons are decidedly lighter than this time last year, it was noted. This tied up with the report from other rayon underwear producers that they were curtailing their output. There is no drastic reduction in rayon underwear production, because the easing up in buying is not emphatic enough to call for such a step; but the mills are following a policy of caution all along the line. The company above referred to found the current volunteer orders to be well above last year.

This volunteer business is all reorders. The original orders were placed shortly after the market slump last fall, at a time when industry was generally very hesitant, thus explaining why the original contracts were small. The in-

FOR "SPOTTING OUT" and cleaning knitting machines, needles, bars, etc., USE the non-inflammable

TRI-CHLOR-ETHYLENE

Textile mills can't "keep house" without efficient Solvents. So R & H has developed Solvents which clean quickly and thoroughly.

Trichlorethylene is especially recommended and used by a number of progressive mills. Its non-inflammability makes it safe. Its solvent power makes it quick acting.

Full fashioned hosiery mills use R & H Trichlorethylene to clean the needles and bars of hosiery machines. Every bit of grease and dirt can be removed rapidly, thereby giving complete protection to hosiery in work.

The remarkable effectiveness of Trichlorethylene as a cleaning agent is used to advantage in "spotting out." Through its use much yardage can be salvaged, as spots, soap marks, grease and other stains are readily removable. And there is no danger of damaging fabrics or colors.

Try out R & H Trichlorethylene in your mill. Samples gladly forwarded upon request

R&H CHEMICALS

Some of the other R & H Solvents are:

Chloroform, technical
Carbontetrachloride
Tetrachlorethane
Solvent 260

The ROESSLER & HASSLACHER CHEMICAL CO.

10 East 40th Street New York, N. Y.

crease in the number in the reorder group was interpreted as indicating a growing confidence regarding the retail outlook.

EXPECT HAND-TO-MOUTH TRADE

Producers interviewed were of the view that the underwear business will be on a strictly hand-to-mouth basis at least until the beginning of June. The tone of the market is confident. Jobbers and retailers reported a steadier movement of their lines, and the general indications were that business was on the upgrade. No great jump can be looked for, however, and slow progress is rather to be desired as it probably would be more lasting. Certain of the lower-priced lines moved better than the high-priced numbers, showing a continuance of the policy of economy among consumers.

Cottons Are Less Lively

Sellers Become More Firm And Market Broadens a Little

COTTON goods buying had a tendency to slough off in the early part of the current week, after about ten days of sustained activity over a broader front. Cotton eased on Monday, but recovered during the next two days and did not have any appreciable effect on the goods market. In all there is a great deal of improvement as compared with two weeks ago. Prices are firm at higher levels and there is a growing tendency for mills to refuse bids of late contracts at current prices. Selling was broader and included print cloths, sheetings, broadcloths, certain of the wide goods, and a greater movement of colored goods for export. Sheet and pillow case sales have been large, but more or less confined to a few producers. The price situation in this branch is a cause for much complaint. Wash goods are far from satisfactory, several converters telling of a good sales volume at an entire lack of profit. Blankets are only fair.

Bids aggregating fair quantities of print cloths were numerous the forepart of the week, but few were translated into orders. The majority of buyers were interested in goods at $\frac{1}{8}$c. off quotations and found most mills unwilling to consider such offers. The market for 64x60s was 6$\frac{1}{4}$c. with some nearby business going through at that figure.

Interest in sheetings was limited to small and scattered lots although toward the close of last week, jobbers were placing good size commitments for branded goods.

BROADCLOTHS

The technical position of the carded broadcloths is considerably improved by the recent activity. With the disposal of large lots of stock goods, the price situation has improved, both for spots and contracts. The 100x60s have been most in demand and are now quoted at 8$\frac{5}{8}$c. for spot and nearby, with a few centers holding at 8$\frac{3}{4}$c. for contracts.

American Reprices Fancy Worsted

Women's Wear Fabrics Open At 10-15% Reductions

AN INCREASED feeling of confidence is apparent in the wool goods market, although business remains spotty. Clothiers have not done much more than ask for reference samples, with a few placing orders for small to medium size quantities. There is a tendency to confine business to a few outstanding houses, which gives a one-sided view to the situation.

AMERICAN WOOLEN CO.

Last week the American reduced prices on semi-staple and fancy worsteds in Depts. 1 and 2, bringing these fabrics in line with the rest of the market. This was comparable with the action taken on staples, and was prompted by the same causes—cuts by competitors, who opened after the big company, and further declines in wool. It is felt that this revision marks the bottom of the market and leaves buyers free to operate. These latest concessions range from 21c. to 37c. compared with fall 1929 prices, and from 5c. to 20c. compared with the basis established earlier this month. A few of the numbers are given below:

Dept. 1 Washington Mill	Fall 1930	Reduced from Fall 1929
13394	$1.76	24c.
13396	1.76	27c.
Wood Worsted		
407	1.84	30c.
673	2.08	21c.
Ayer		
2167	2.23	25c.
Fulton		
1580	2.20	27c.
Dept. 2		
National and Prov.		
3001	2.23	25c.
3005	2.47	28c.
Fulton		
3071	2.61	29c.
3073	2.88	37c.
Puritan		
3202	2.33	23c.
3205	3.08	32c.

WOMEN'S WEAR

Openings of women's wear fabrics are on the way. Several houses were showing new lines this week and others will follow shortly. No definite prices were mentioned, but sellers said that the decline averaged 10 to 15%. It is not expected that the situation will develop into the unsettlement that accompanied the men's wear openings. Prices are drastically lower, due to raw wool, but it is believed that the opening prices will stand and not be subjected to continual sniping. Factors were sounding out the trade, but could give no impressions as to what fabrics would be in demand. Buyers were not showing any great amount of interest, nor willing to express definite opinions.

◆Shantungs Lead Broadsilk Demand

BROADSILKS were firm, with shantungs one of the chief features of the week. Shantungs were decidedly active, both plain and printed, and mills were one to two weeks behind in shipments. This activity was the exception to the rule, as the broadgoods market, generally speaking, was quiet. Both retailers and cutters were buying, but in small quantities. The continued cold weather has held back the call for all lines, it is believed; broadsilk executives were looking eagerly for a run of real mild days which they thought would stimulate greater interest.

Current buying has stressed shantungs to the point that mills can't produce these spun silk fabrics fast enough. Mills are producing new shantungs to tie up with "Sport Silk Week" in the spun silk trade.

SHEERS FAIR

Chiffons and the other sheers were in fair demand. The call for chiffons is less than it was, and the unfavorable weather is blamed. Orders are mostly for small florals, widely spaced. One and two color combinations were favored. Pastels and blacks were important. The trend appeared to be away from the multicolor effects, and toward simplicity. Geometrics were in moderate call.

There was a light but steady demand for velvets for dresses and coatings. Staple flat crepes sold well, especially the prints. Cantons were steady.

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended March 22, based upon data compiled by the Market News Service of Bureau of Agricultural Economics, Department of Agriculture, are as follows:

Domestic	320,000	15,390,000	12,200,000
Foreign	2,682,000	21,048,000	42,551,000
Total	3,002,000	36,438,000	54,751,000
IMPORTS AT PRINCIPAL PORTS			
Boston	2,682,000	21,048,000	42,551,000
Philadelphia	1,150,000	19,933,000	24,258,000
New York	1,504,000	15,071,000	24,393,000
Total	5,336,000	56,052,000	91,202,000

QUOTATIONS

at close of business, March 19, 1930
Prices cover average qualities unless otherwise stated

Cotton Goods

	Mar. 26	Mar. 19	Mar. 27 1929
PRINT CLOTHS			
27-in., 64x60, 7.60	4½c.	4½c.	5 5/16 – 5½c.
38½-in., 64x60, 5.35	6½c.	6½c.	7⅛ – 7½c.
39 -in., 68x72, 4.75	7½c.	7½c.	8½c.
39-in., 72x76, 4.25	8½c.	8 – 8½c.	9½c.
39-in., 80x80, 4.00	9 c.	8½ – 9 c.	10⅛–10½c.
BROWN SHEETINGS			
36-in., 56x60, 4.00	7½–7¾c.	7¾c.	8⅛ – 8¼c.
36-in., 48x48, 3.00	9 –9¼c.	8⅞–9 c.	10⅛–10⅜c.
37-in., 48x48, 4.00	6¾–7 c.	6¾c.	8¼ – 8⅛c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	7½–7¾c.	7½–7¾c.	8¼c.
36½-in., 64x60, 5.75	6¾c.	6¾c.	7¼c.
MISCELLANEOUS			
Drills, 37-in., 3 yd.	9c.	9 c.	11–11½c.
Denims, 2.20	15c.	15 c.	17 c.
Tickings, 8 oz.	18¼–19½c.	18½–19½c.	22-23 c.
Standard prints	9¼c.	9¼c.	9 c.
Eastern staple ginghams, 27-in.	10c.	10c.	10½c.

Cotton Waste

Peeler comber	12½—13½
Peeler strips	10½—11½
Sak. comber	11 —11½
Choice willowed fly	6 — 6½
Choice willowed picked	5 — 5½
Sak. strips	13 —14
Linters (mill run)	3½ — 4
White spooler (single)	8 — 9

Cotton Yarn

CARDED—(Average Quality)
Double carded 2c.-4c. higher according to quality

SINGLE SKEINS OR TUBES—(Warp Twist)

4s to 8s	$0.26	20s	$0.29
10s	.26½	24s	.31
12s	.27	26s	.31½ – .32
14s	.27½	30s	.34 – .34½
16s	.28	40s ex. qual.	.46 – .47

TWO-PLY SKEINS AND TUBES

8s-2	$0.26½	26s-2	$0.33 – .33½
10s-2	.27	30s-2	.34½ – .35
12s-2	.27½	36s-2	.39 – .41
14s-2	.28	40s-2	.43
16s-2	.28½	40s-2 hi b'k	.47 – .48
20s-2	.29½ – .30	50s-2	.50
24s-2	.32½	60s-2	.58

SINGLE WARPS

10s	$0.27	24s	$0.31½ – .32
12s	.27½	26s	.32½ – .33
14s	.28	30s	.35½ – .36
16s	.28½	40s ex.qual.	.47 – .48
20s	.29½ – .30		

TWO-PLY WARPS

8s-2	$0.27	24s-2	$0.32½ – .33
10s-2	.27½	26s-2	.33½ – .34
12s-2	.28	30s-2	.35
14s-2	.28½	40s-2 ordin.	.43
16s-2	.29	50s-2	.50 – .51
20s-2	.30	60s-2	.58 – .59

8s-2 and 4-ply skeins and tubes; tinged, 23; white 25½; waste 21-21½

HOSIERY CONES (Frame Spun)

8s	$0.25½	22s	$0.29½
10s	.26	24s	.30½ – .31½
12s	.26½	26s	.31½ – .32½
14s	.27	30s tying	.32½ – .33½
16s	.27½	30s reg.	.34½ – .35
18s	.28	30s ex.qual.	.37 – .37½
20s	.29	40s	– .42

COMBED PEELER—(Average Quality)
WARPS, SKEINS AND CONES

	Merc. Tw.	Wp. Tw.		Merc. Tw.	Wp. Tw.
20s-2	$0.43	.44	60s-2	$0.63	.64
30s-2	.49	.50	70s-2	.73	.74
36s-2	.50	.51	80s-2	.85	.86
40s-2	.51	.52	90s-2	1.02	1.08
50s-2	.55	.56	100s-2	1.28	1.33

SINGLES

12s	$0.37	30s	$0.46½ – .47
14s	.37½	38s	.49½ – .50
16s	.38	40s	.50½ – .51
18s	.38½	50s	.55 – .56
20s	.39½	60s	.62 – .63
24s	.42	70s	.72 – .73
28s	.45	80s	.84 – .85

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.57 –0.58	90s-2	$1.40 –1.45
30s-2	.60 – .61	100s-2	1.70 –1.75
36s-2	.63 – .64	120s-2	2.10 –2.15
40s-2	.65 – .67	30s	.77 – .80
45s-2	.68 – .70	40s	.82 – .84
50s-2	.70 – .72	50s	.87 – .90
60s-2	.78 – .80	60s	.94 – .99
70s-2	.92 – .95	70s	1.10 –1.15
80s-2	1.05 –1.09	80s	1.32 –1.37

COMBED REVERSE TWIST THREAD YARNS
(Skeins, Tubes or Cones, 2, 3 and 4-Ply)

	Peeler Average	Peeler Best	Sakelarides Average	Sakelarides Best
24s	$0.48	$0.58	$0.71	$0.76
30s	.51	.61	.74	.79
36s	.53	.63	.78	.82
40s	.58	.67	.81	.86
45s	.63	.72	.86	.91
50s	.68	.77	.91	.96
60s	.78	.87	1.01	1.06

Cotton Prices and Statistics

FLUCTUATIONS OF FUTURES

	Closed Mar. 20	For Week High	For Week Low	Closed Mar. 26	Net Change
March	15.40	15.73	15.19	.....	.....
April	15.47	15.74	15.46	15.70	+ 23
May	15.59	15.95	15.25	15.81	+ 22
June	15.60	15.80	15.53	15.79	+ 19
July	15.64	15.95	15.34	15.80	+ 16
August	15.61	15.78	15.53	15.63	+ 02
September	15.59	15.78	15.48	15.48	— 11
October	15.60	15.75	15.30	15.37	— 23
November	15.66	15.78	15.43	15.43	— 23
December	15.74	15.92	15.46	15.52	— 22
January	15.83	15.95	15.45	15.56	— 27

MIDDLING SPOT FLUCTUATIONS FOR WEEK

	New York	New Orleans	Liverpool
Friday, March 21	15.85	15.51	8.54
Saturday, March 22	15.95	15.47	8.70
Monday, March 24	15.70	15.20	8.50
Tuesday, March 25	15.80	15.27	8.51
Wednesday, March 26	16.00	15.46	8.43
Thursday, March 27	16.00	15.41	8.45

SPOT FLUCTUATIONS AND STOCKS

Market	Mar. 19	Mar. 26	Sales	Stocks This Week	Stocks Last Year
Galveston	15.60	15.90	2,550	305,743	429,146
New Orleans	15.10	15.46	1,877	434,675	343,792
Mobile	14.80	15.25	1,110	15,828	28,855
Savannah	15.20	15.56	.....	48,034	31,969
Norfolk	15.50	15.88	673	54,513	73,711
New York	15.45	16.00	1,600	95,124	139,425
Augusta	15.44	15.81	1,181	86,605	78,818
Memphis	14.85	15.05	9,432	365,023	223,839
St. Louis	15.00	15.25	.....	10,842	20,925
Houston	15.50	15.75	3,883	842,866	667,026
Dallas	14.90	15.25	2,129	.....	.....

BASIS MIDDLING

	Saturday Mar. 22	Saturday Mar. 15
10 markets average	15.47	14.69
Memphis	15.05	14.40

PREMIUM STAPLES
First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices Nominal
1⅛-in	18.65–18.90c.
1 3/16-in	19.85–20.10c.
1¼-in	23.75–24.00c.

CURRENT SALES

	For Week	Prev. Week	Week Before
Memphis total	10,151	7,321	8,164
F.o.b. included in total	8,056	6,104	6,725
10 markets	28,147	32,852	39,699

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week	Last Year	Year Before
Net receipts	9,224	16,164	8,660
Gross receipts	26,207	40,566	20,185
Total since Aug. 1, net	886,805	780,882	610,877
Shipments	33,313	41,986	25,437
Total since Aug. 1	1,441,719	1,438,677	1,177,325
Total stock	373,853	224,936	228,381
Decrease for week	7,106	1,420	5,252
Unsold stock in hands of Memphis factors	53,671	.....	.....
Decrease for week	2,002	.....	.....

AVERAGE PRICE MARCH-APRIL SHIPMENT
HARD WESTERN COTTON
F. o. b. New England

	Middling	St. Middling
1 1/16 in	18 –19c.	19½–19½c.
1⅛ in	19½–19½c.	20¼–20¾c.
1 3/16 in	21 –21½c.	22 –22½c.
1¼ in	24½–25½c.	26½–27½c.

Basis on New York, May, 15.80c.

DIFFERENCES ON AND OFF MIDDLING
WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M. F	1.05†	.90†	1.00†	1.25†	1.07†
S. G. M	.90†	.65†	.90†	1.00†	.89†
G. M	.75†	.50†	.75†	.75†	.72†
S. M	.50†	.35†	.50†	.50†	.50†
S. L. M	.25*	.25*	.85*	.75*	.75*
L. M	1.75*	1.50*	1.75*	2.00*	1.70*
S. G. O.**	3.00*	2.50*	2.75*	3.25*	2.80*
G. O	4.00*	3.50*	3.75*	4.25*	3.78*
YELLOW TINGED					
G. M	.50*	.50*	.50*	.50*	.50*
S. M	1.00*	1.00*	1.00*	1.00*	1.00*
M.**	1.75*	1.50*	1.50*	1.50*	1.60*
S. L M.**	2.50*	2.00*	2.25*	2.25*	2.27*
L. M.**	3.25*	3.00*	3.00*	3.00*	3.15*
YELLOW STAINED					
G. M	1.50*	1.50*	1.50*	1.50*	1.50*
S. M.**	2.25*	2.25*	2.50*	2.50*	2.35*
M.**	3.00*	2.75*	3.50*	3.50*	3.15
BLUE STAINED					
M. G.**	1.75*	1.25*	1.75*	1.75*	1.65*
S. M.**	2.25*	2.00*	2.75*	2.75*	2.40*
M.**	3.00*	2.50*	3.75*	3.75*	3.18*

**Grades not deliverable on contract. †On Middling. *Off Middling.

EGYPTIAN COTTON

March-April Shipment c.i.f.	Boston	Change
Fully good fair Sak	30.60	+0.75
Fully good fair to good uppers	22.00	... ..

(By John Malloch & Co.)

Alexandria Exchange, Mar. 25		
May Sak	28.24	+0.18
April uppers	19.40	.....

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne.	$0.32 –$0.33	¼ blood	$0.34 –$0.35
Fine clthg.	.24 – .25	½ blood	.32 – .33
¼ blood	.33 – .34		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.75 –$0.78		
California, Northern	.70 – .72		

PULLED—EASTERN (CLEAN BASIS)

A.A.	$0.78 –$0.80	B-Super.	$0.60 –$0.65
A-Super.	.68 – .70	C-Super.	.53 – .55

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.75 –$0.78
Staple ½ bld.	.73 – .75
Fine and fine medium	.70 – .73
¾ bld. blood	.65 – .68
½ blood	.58 – .62

MOHAIR—DOMESTIC

Best carding	$0.40 –$0.43
Best combing	.57 – .60

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.35 –$0.38
Cape firsts	.35 – .38

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.68 –$0.70
64s	.56 – .58
58s-60s	.48 – .50

(IN GREASE)

Montevideo:	
58-60s	$0.25 –$0.26
56s	.25 – .26
50s	.24 – .25
Buenos Aires:	
4s, 40-44s	$0.21 –$0.22
5s, 36-40s	.18 – .19

FOREIGN CARPET (GREASE BASIS IN BOND)

China: Combing No. 1	$0.22 –$0.23
China Filling Fleece	.21 – .22
Szechuen ass't	.21 – .22
Cordova	.18 – .19
Scotch black face	.22 – .23
East India: Kandahar	.30 – .32
Vican'r	.34 – .36
Joria	.34 – .36
Aleppo	.34 – .35

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s, 36s	$0.92½–$0.97½
2-24s, 40s	1.02½– 1.05
2-26s, 44s	1.12½– 1.15
2-28s, 46s	1.17½– 1.20
2-30s, 48s	1.25 – 1.30
2-32s, 50s	1.30 – 1.32½

(Single yarns 5c. less than above)

2-36s, 58s	$1.45 –$1.47½
2-40s, 60s	1.52½– 1.55
2-40s, 64s	1.55 – 1.57½
2-50s, 66s	1.77½– 1.82½
2-60s, 70s	2.20 – 2.25

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$1.05 –$1.07½
2-20s, 50s in oil	1.17½
2-20s, 56s in oil	1.27½
2-20s, 60s in oil	1.42½– 1.45
2-20s, 64s in oil	1.50 – 1.55
1-15s, 46s dyed	1.25 – 1.27½
1-15s, 48s dyed	1.27½ –1.30
1-15s, 50s dyed	1.32½– 1.35

(Oil yarns 17½ c. less)

FRENCH SYSTEM

1—20s, 58s	$1.30 –$1.32½
1—20s, 60s	1.35 – 1.37½
1—26s, 64s	1.37½– 1.40
1—30s, 60s. . Warp	1.52½– 1.55
1—30s, 64s. . Warp	1.55 – 1.60
2—30s, 64s. . Fancy mixes	1.75 – 1.80
2—40s, 64s. . Zephyrs	1.70 – 1.75
1—50s, 66s	1.70 – 1.72½
2—50s, 66s	1.85 – 1.87½
1—60s, 70s	2.15 – 2.17½
2—60s, 70s	2.30 – 2.35

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$1.10 –$1.12½
1-40s, 50-50-60s on cops	1.27½– 1.30
1-40s, 50-50-64s on cops	1.30 – 1.35
1-40s, 50-50-64s Australian cops	1.35 – 1.37½

Underwear mixes, 3c. additional.
Solid color, 35c. additional.

◆

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.98 –$1.00
Half-blood (60-62s)	.96 – .98
High ¾ blood (58s)	.90 – .92
Aver. ¾ blood (56s)	.88 – .90
Low ¾ blood	.83 – .85
High ¼ blood (50s)	.78 – .82
48s N. Z.	.75 – .77
46s S. A. and N. Z.	.71 – .73
44s S. A. and N. Z.	.65 – .68
40s S. A. and N. Z.	.63 – .65
36s S. A. and N. Z.	.63 – .65

TOPS—BRADFORD, ENG. (MARCH 22)

Fine (70s)	29d	¾ bld. (56s)	20½d
Fine (64s)	27d	½ bld. (50s)	17 d
½ bld. (60s)	25d	Cross-bred (46s)	14½d
¾ bld. low (58s)	23d		

NOILS—BOSTON

Fine	$0.52–$0.55	High ¼ bld.	$0.41–$0.43
Half-bld.	.48– .50	Low noils	.35– .38
Aver. ¾ bld.	.44– .46	Medium colored	.30– .35
Fine colored	.40– .43		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.85 –0.88
Lap, fine colored	.58 – .63
Hard ends, fine white	.55 – .60
Hard ends, ½ blood white	.45 – .48
Hard ends, fine colored	.27 – .30
Hard ends, medium colored	.23 – .28
Card, fine White	.30 – .35
Burr, fine Carbonizing	.38 – .43

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, Coarse Light	$0.06½–$0.07
Merinos, Fine Dark	.04½– .05
Merinos, Fine Light	.15½– .16½
Serges, Blue	.09 – .09½
Serges, Black	.08 – .08½
Serges, Red	.12 – .12½
Knit, White	.35 – .36
Knit, Red	.17 – .17½
Knit, Light Hoods	.17½– .18½
Worsted, Light	.06 – .07
Worsted, Blue	.09 – .09½
Worsted, Black	.08 – .08½

Silk Yarns

THROWN SILK (60 day basis)

Japan organzine, 2 thd. grand XX in skeins	$6.00
Japan organzine, 2 thd. sp. crack in skeins	5.80
Japan crepe, 3 thd. grand XX in bobbins	6.10
Japan crepe, 3 thd. sp. crack on bobbins	5.80
Japan crepe, 4 thd. crack on bobbins	5.75
Canton crepe, 3 & 4 thd. ns. 14/16 on bobbins	3.70
Tussah tram, 2 end on cops	2.45
Hosiery tram, 3 thd. Japan XXX	6.50
Hosiery tram, 5 thd. Japan G XX	5.80
Hosiery tram, sp. crack XX	5.40
Hosiery tram, crack XX	5.30
Hosiery tram, XX	5.20

SPUN SILK YARNS—(Terms: net 30)

40 2	$4.25	60 2	$4.55
50 2	4.35	62 1	3.30

Raw Silk

(60 day basis)

Japan filature, grand XX, 13/15	$5.00
Japan filature, sp crack XX, 13/15	4.95
Japan filature, crack XX, 13/15	4.75
Japan filature, XX, 13/15	4.70
Japan filature, best X, 13/15	4.60
Japan filature, X, 13/15	4.50
Canton filature, new style, 14/16	2.75
Canton filature, new style 20/22	2.65
Tussah filature, 8 cocoon	1.80
Grand XX (Yellow) 20/22	4.75
Grand XX (White) 20/22	4.70
Sp. crack (Yellow) 20/22	4.70
Sp. crack (White) 20/22	4.70
Crack (Yellow) 20/22	4.70
Crack (White) 20/22	4.60

NATIONAL RAW SILK EXCHANGE

	Close Mar. 19	For the High	Week Low	Close Mar. 25	Net Chge.
March	4.55	4.55	4.35	4.47	—.06
April	4.40	4.45	4.33	4.41	+.01
May	4.39	4.40	4.32	4.34	—.05
June	4.25	4.26	4.23	4.28	+.03
July	4.24	4.24	4.17	4.22	—.02
August	4.20	4.22	4.16	4.22	+.02
September	4.19	4.20	4.15	4.15	—.04
October	4.18	4.18	4.14	4.15	—.03

March 19 to March 25—Total contracts, 319. Total number of bales, 3,190. Total approximate value, $1,914,000.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First Quality	Second Quality
75	18	$2.35	$1.65
75	30	2.45	1.75
100	18	1.95	1.60
100	40	2.00	1.65
125	18	1.45	1.25
125	36	1.50	1.30
150	24–32	1.15	1.10
150	36	1.20	1.15
150	60	1.35	1.30
150	75	1.50	.....
170	24–27	1.15	1.10
170	60	1.35	1.30
200	30–32	1.10	1.05
200	60	1.30	1.25
300	40–60	1.00	.95
400	72	1.10	.95
450	54	1.00	.95
600	72–96	1.00	.95
900	100–144	1.00	.95

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
35	$3.50	$3.25	125	$1.45	$1.25
50	2.75	2.50	140	1.15	1.10
75	2.35	1.65	150	1.15	1.10
100	1.95	1.60	160	1.15	1.10
			175	1.15	1.10

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	25	$4.15	40	30	$3.15
25	25	3.65	52	30	3.00
30	25	3.40			

(Due to diversified offerings prices for higher denier are not listed.)

ACETATE PROCESS

Denier	Price	Denier	Price
45	$2.75	120	$1.90
55	2.55	150	1.60–1.85
75	2.25–2.70	200	1.55
100	2.00–2.45	300	1.50

Rayon Waste

Open bleached waste	$0.26 –$0.28
Open unbleached waste	.24 – .26
Bleached thread waste (mfs.)	.14 – .15
Bleached thread waste (misc.)	..... .11
Colored thread waste	.08 – .10
Colored clips	..... .12

CONVERTED RAYON WASTE

Bleached tops	....–$0.55
Unbleached tops	....– .48
Bleached noils	....– .19
Bleached garnets	.23 – .25
Unbleached garnets	.21 – .23
Colored garnets	.16 – .20

◆

For Cotton
or
Rayon

NATIONAL SOLANTINE VIOLET FFR

This new National Dye produces bright violet shades, of a reddish tone, possessing very good fastness to light.

A bulletin of technical information concerning National Solantine Violet FFR is available to dyers on request.

NATIONAL DYES

NATIONAL ANILINE & CHEMICAL COMPANY, Inc.
40 Rector Street New York, N. Y.

CHICAGO
PHILADELPHIA
BOSTON
PROVIDENCE
TORONTO
CHARLOTTE
SAN FRANCISCO

Outerwear Selling Agents Hold Annual Meeting

Knitted Outerwear Selling Agents Association re-elected Herman Heller president, Jack DeWilde vice-president and C. C. Smith secretary-treasurer at its recent meeting at the Arkwight Club. Mr. Heller was prevailed upon to accept the nomination despite his desire to relinquish the office.

The board of governors is as follows: B. Charles Gould, Hamilton Sales Co.; Joseph M. Kahn, Joseph M. Kahn Co.; Harold Herrick, Harold Herrick Co.; E. L. Madden, M. S. Ely Knitwear Corp.; William Nagel, Jr., Utica Knitting Co.; Morse I. Stone, Stone & Stone; Hugo Baron, Hugo Baron Co.; Thomas Armstrong, A. J. Armstrong Co., and Fred Mayer, Mayer, Kendler Co.

A committee composed of Mr. Heller, Mr. Mayer, Mr. Kahn, Mr. Armstrong and Joe Abrahams was appointed to work out plans for improving the relationship between all those interested in the distribution of knitted outerwear.

Whitman to Supply Army Serge

Bids to supply the Philadelphia Quartermaster Corps, U. S. Army, with 30,000 yd. serge used in making caps, were received March 21, the following concerns submitting prices: J. P. Stevens Co., $2.75, terms net; Selden Worsted Mills, bid on two samples, $2.69 and $2.62, terms ¼% 10 days; Amoskeag Mfg. Co., $2.35, terms one-third per cent 10 days, goods 57 in. wide; Walther Mfg. Co., $2.71, terms 1% ten days; Merrimac Mills, $2.69, terms 1% 10 days.

Wm. Whitman Co., $2.49; net; Germania Mills, $2.5825 net; Pacific Mills, $2.54, 6% per year anticipation; Batavia Mills, Inc., $2.564, 1% 10 days; Botany Worsted Mills, $2.49½ net; Princeton Worsted Mills, $2.91 net; American Woolen Co., $2.57 net; New Jersey Worsted Mills, $2.55 net.

Depot officials announced that contract to supply them with this item was placed with Wm. Whitman Co., whose price was $2.49, net. The depot wished quick action on the serge item in view of the fact fabric is wanted for manufacture of caps on which early delivery is wished.

Gerrit Duys, Tubize Sales Manager, Resigns

Gerrit Duys, who was for many years connected with Tubize Artificial Silk Co. of America, Inc., now Tubize Chatillon Corp., has resigned the post of sales manager effective April 1, it is announced.

Mr. Duys joined the Tubize company prior to the time it started production at its Hopewell plant and sold some of the yarn that was imported from the Belgian company, Fabrique de Soie Artificielle de Tubize.

In 1921, Mr. Duys became sales manager of Tubize, serving under Bertrand Clarke, then connected with Tubize, and later under E. V. Peters, who resigned the post of vice-president and head of sales some days ago.

Mr. Duys said he would make known his plans later, but would first take a vacation.

Clemson College Textile School Plans Knitting Division

Plans are under way for the organization of a knitting division of the Clemson College (S. C.) Textile School, according to an announcement from H. H. Willis, director. Several new machines have been installed, including one Fidelity selvage welt ribber 220x3½; one Fidelity French welt ribber 240x3½; one Brinton trick wheel machine for golf hose; one table of Stetten electric hosiery forms, and one Oswald lever winder for preparing rayon. It was stated that two additional Hemphill machines, one 144-needle 3¾ diagonal and one 3½ 200-needle with new 12-step attachment, will be installed.

Federal Specification Resubmitted

Federal Specifications Board has resubmitted Proposed Revision F. S. No. 303-304 covering sheets, bleached, cotton, and sheetings cotton, wide or bleached. As usual the Board will be glad to receive any comments or suggestions.

Army Wants Bids on Melton

PHILADELPHIA.—Army Quartermaster will receive proposals April 11, for 42,000 yd. olive-drab melton 16 oz., 56 to 58 in. wide, conforming with specifications 8-61B.

Code System for Raw Stock

(Continued from page 51)

for all cost-accounting purposes. In a like manner, scarlet-flannel shoddy would carry a code No. S-2520, dark-Oxford shoddy would carry a code No. S-5422, and the next trimming shoddy would carry a code No. S-9902. Some ten or twelve cards would be sufficient to keep an accurate, simple record of all the shoddy on hand.

When it comes to cotton stock, code numbers are worded up as follows: The source of the cotton would be the first digit in the code number. No 1 would represent combed peeler cotton; No. 2, Egyptian cotton; No. 3, Peruvian cotton; No. 4, China cotton; and No. 5, India cotton. The second digit would represent the color. No. 1 would be white; No. 2, dark navy blue; No. 3, black; and the other numbers, any other color which might be carried. The third digit would represent the staple length; No. 1 being very short; No. 2, medium; and No. 3, long.

The fourth digit would represent the fineness. Since the cotton is of nearly equal fineness, it would not be necessary to code the degree of fineness. In order to preserve the four-digit code system, however, we would probably state that No. 1 represents all grades of fineness. Therefore, the sulphur-black-dyed India cotton would be code No. C-5321.

Where jute, ramie, or silk noils are used to increase the length of staple of a blend, the mill generally adopts one grade of these fibers and sticks pretty close to it. If for any reason several varieties of these fibers are used, a similar table could be worked out.

TEXTILE CALENDAR

Cotton Manufacturers Association of Georgia, Annual Meeting, Atlanta-Biltmore Hotel, Atlanta, Ga., April 3-4, 1930.

•

Textile Institute, N. C. State College, Raleigh, N. C., April 9-10, 1930.

•

A.A.T.C.C., Piedmont Section, Spring Meeting, Poinsett Hotel, Greenville, S. C., April 12, 1930.

•

Southern Textile Association, Organization Meeting, Knitters' Division, King Cotton Hotel, Greensboro, N. C., April 15, 1930.

•

National Association of Textile Printing Colorists, Annual Meeting, Providence, R. I., April 19.

•

Southern Textile Association, Master Mechanics' Division, Spring Meeting, Charlotte, N. C., April 24, 1930.

•

International Exposition, Textile Exhibitors Association, Mechanics Building, Boston, Mass., April 28-May 3, 1930.

•

Textile Research Council, Joint Conference, University Club, Boston, Mass., April 30, 1930.

•

National Association of Cotton Manufacturers, Annual Meeting, Copley-Plaza Hotel, Boston, Mass., April 30-May 1, 1930.

•

Textile Division, A.S.M.E., National Meeting, Hotel Statler, Boston, Mass., May 2, 1930.

•

American Cotton Manufacturers Association, Thirty-fourth Annual Convention, Carolina Hotel, Pinehurst, N. C., May 6-7, 1930.

•

Southern Textile Association, Eastern Carolina Division, Semi-annual Meeting, Selma, N. C., May 9, 1930.

•

Knitting Arts Exhibition, Commercial Museum, Philadelphia, May 12-16, 1930.

•

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Philadelphia, May 14, 1930.

•

Philadelphia Textile School Alumni Association, Outing and Annual Dinner, Philadelphia, June 6, 1930.

•

Cotton Manufacturers Association of North Carolina, Annual Convention, Grove Park Inn, Asheville, N. C., June 17-18, 1930.

•

National Knitted Outerwear Association, Annual Meeting, Toronto, Canada, June, 1930. (Exact date not yet set.)

•

Southern Textile Association, Annual Meeting, Ocean Forest Hotel, Myrtle Beach, S. C., June 27-28, 1930.

•

Ninth Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 20-25, 1930.

•

Textile Division, A.S.M.E., National Meeting, Poinsett Hotel, Greenville, S. C., Oct. 22, 1930.

•

Southern Textile Association, Semi-Annual Meeting, Poinsett Hotel, Greenville, S. C., Oct. 23, 1930.

When a Trademark clings to a FADED DRESS...

6 men lose business

LOOK over the shoulder of your customer . . . at his customer and his customer's customer. That is where *your* business is built.

The kind of dress manufacturer whose business you want, doesn't forget the opinion of the little lady at the end of the textile chain. He cultivates her favor for himself *and for you* . . . when he sells fast dyed fabrics.

There is no longer any excuse for undependable substitutes. Du Pont Vat Dyes provide a complete range of colors for every type of cotton material. They are fast.

The textile chain is too long to trust your prosperity entirely to other men's ideas of how to build greater profits.

Du Pont Vat Dyes will protect you. Let du Pont technical service help you establish a profitable vat dye policy for dyeing and printing all cotton wash goods.

FAST-DYED FABRICS

The Better Way to Greater Profits

E. I. DU PONT DE NEMOURS & COMPANY, INCORPORATED, DYESTUFFS DEPARTMENT, WILMINGTON, DELAWARE

S. T. A. Carders Meet

(Continued from page 41)

Newberry (S. C.) Cotton Mills, reported that a comparative test of 13s yarn from straight wire and ordinary kneed wire clothing showed that there was about 50% less end-breakage in spinning and 300% less end-breakage in high-speed spooling and warping with the yarn carded on straight wire clothing. His tests were made under identical atmospheric conditions.

Five members present reported using metallic card clothing. Mr. Dilling stated that the yarn spun from stock carded on metallic clothing looks as well as that from ordinary clothing, that the breaking strength increased about 5% after installing metallic clothing, and that there was a saving in waste in the carding process of about 1½%, but this might be lost in subsequent processes.

Another member reported that yarn spun from stock carded on metallic clothing showed about 5% lower breaking strength. In view of these conflicting results, it was pointed out that comparative tests often are not fair because in older mills frequently the cards will be completely overhauled before new clothing is put on, and the performance of overhauled machines is compared with other machines which are in need of repair or with the average for the rest of the cards.

Oiling Raw Stock

The practice of oiling raw stock, if applied in the proper manner, according to Mr. Dilling, enables one to keep the machinery and mill generally in much cleaner condition. He had experienced good results by applying ⅛ of 1% of oil, based on the quantity of cotton fed into the opening machinery, which was applied to the cotton before the vertical opener in one mill and after the vertical opener in another. An increase in breaking strength of ply yarns was observed.

Another mill which applied the oil by means of a nozzle in the conveyor pipe, installed an extension below the pipe which made it easy to clean out the pipe every day and prevent gumming. It was said that the amount of dust in the card room was reduced considerably, while J. B. Fry, Florence Mills, Forest City, N. C., stated that the use of oil on the raw stock was entirely justified because of the benefit to the employes.

The results of Arkwright Test No. 34 (See "Oil-Treated vs. Untreated Carded Cotton," by A. R. Marley, Textile World, March 22, 1930), were cited by Mr. Dilling, to illustrate the effect on end-breakage throughout the plant and the breaking strength of yarn caused by the application of oil to raw stock.

Heavier roving was found to be necessary in spinning by long draft process, according to M. T. Grimes, superintendent, Chicopee Mfg. Co., Gainesville, Ga., while it was pointed out that less twist in the roving, which resulted in operating the fly frames at reduced speed, improved the performance of the machinery.

Reduction in flyer speeds was said to give better results, and A. H. Cottingham, general manager, Victor-Monaghan Co., Greenville, S. C., reported that it was found possible to cut the spindle speed approximately 12% on all slubbers, intermediates and speeders after going on the long draft spinning system.

The majority of members present stated that they concentrate on the drawing process for regulating yarn numbers, checking the weight of drawing sliver twice daily, after a standard has been established. Chairman Corn was of the opinion that, if proper correction for weight of laps is made in the picker room, it should not be necessary to pay any attention to the effect that weight of sliver might have on spinning numbers.

T. B. Hill Heads Silk Men

(Continued from page 37)

ment of output to keep prices firm in the quiet season. Albert J. Pfeiffer, president of Albert Pfeiffer, Inc., New York, reviewed the thrown silk situation in 1929. He found conditions improving, but commented that business, while substantial, was handled on a margin too close for comfort. Samuel Kridel, of the Bethlehem Silk Co., New York City, reporting on ribbons, said the industry had not yet recovered from the depression brought about in recent years by the style trend away from ribbons. Recent changes have served to stress ribbons together with the whole feminine line and this is beginning to strengthen the ribbon industry, he added.

Sidney Blumenthal, president of Sidney Blumenthal & Co., Inc., of New York City, reported on velvets. He found the past year satisfactory, though the last few months developed certain weaknesses. Demand was active up to August, and then it began to shade off, he said, and a spasmodic situation carried into the closing months. He concluded: "It is quite possible the demand for velvet in 1930 may not equal business done in 1929. Normal velvet business, however, should be looked forward to and domestic manufacturers are very capable of meeting the demand." Clarence W. Sinn, vice-president of Julius Kayser & Co., New York City, discussing the hosiery situation, analyzed the new style trends, and said the long dress vogue probably would not hurt the call for silk hosiery.

L. A. Yerkes, president, DuPont Rayon Co., summarized the rayon yarn situation in its relation to fabrics. Rayon yarn production and consumption both marked a big increase in 1929, he stated. He told of rayon's promotion activities and extended use into many new fields. A. W. Buhlmann, textile engineer, discussing silk machinery, said the year had been satisfactory. The development of rayon machinery made up for a drop in silk machines, he added, and the increased use of rayon calls for new types of equipment.

Special Courses Offered at Clemson for Graduates

The rapid growth of the rayon industry has resulted in an imperative demand for men with special training in various phases of chemistry and dyeing. In line with this demand the Clemson College (S. C.) Textile School has developed a number of special courses in textile chemistry and dyeing for graduate students, which include the following: special aspects of textile research, including spinning, weaving, testing and dyeing; advanced work in synthetic organic chemistry, particularly as related to organic dyestuffs and textile chemicals; advanced analytic organic chemistry, covering organic analysis as applied to textile and related products; advanced work in technical writing and the study of technical literature; technology of the textile fibers; advanced dyeing; textile printing; chemistry of starch; textile finishing; and the manufacture and properties of artificial fibers.

These courses will be given under the direct supervision of H. H. Willis, director of the textile school, and Dr. Chas. E. Mullin, head of the textile chemistry and dyeing division, and make the student eligible for the degree of M.S.

Clemson College has succeeded in making a special arrangement with the Universary of Nancy, a national university of France, whereby graduate students of the textile chemistry and dyeing division may now receive full credit for all undergraduate and graduate work at Clemson toward the degree of Doctor of Science.

Annual Phi Psi Convention at Bellport L. I.

The 27th annual convention of Phi Psi, a textile fraternity, will be held, May 9 to 11 inclusive, at Bellport, Long Island. An interesting and varied program has been arranged by a committee of the New York Alumni Chapter, this year's host. This committee is headed by Harrison F. Wilmot, manager dyestuffs division A. Klipstein & Co., and includes Dr. Joseph F. X. Harold, and A. Henry Thurston, assistant editor Textile World.

To take care of the outdoor enthusiasts, a speed boat as well as a larger craft have been chartered for those desiring to go fishing or sailing. Golf and tennis privileges at the Bellport Country Club will be available with a golf tournament planned May 10.

A banquet Saturday night will top-off the informal gatherings of the preceding days and the Grand Council meeting that morning. Grand Vice-President John H. Grady, manager Boston office A. Klipstein & Co., will act as toastmaster and Dr. E. H. Killhefer, president Newport Chemical Works, will be the principal speaker. Other prominent members in attendance will include Grand President Arthur R. Thompson, southern manager Rohm & Haas, and Harold H. Hart, present leader of the New Hampshire legislature and one of the founders of the fraternity.

INDO CARBON CL conc.
INDO CARBON CLG conc.

THESE blacks are members of a special new group of sulphide blacks which possess the advantage over the ordinary sulphide blacks of producing shades of *excellent fastness to prolonged storing, hot steaming, ironing and acid cross-dyeing.*

The dyeings of Indo Carbon CL Conc. and CLG Conc. are *very fast to washing, boiling, ironing, stoving, alkalies, and mercerizing.*

The good *fastness to chlorine,* in which they surpass all other sulphide blacks, deserves special mention. As a result, Indo Carbon CL Conc. and CLG Conc. may be used for dyeing goods required to stand bleaching in the piece, provided due care is exercised in the method of working.

Vat Color Fastness

GDC

GENERAL DYESTUFF CORPORATION

Sole Distributors in the U. S. A. of the dyestuffs manufactured by

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Frankfurt a. M., Hoechst a. M., Leverkusen a. Rh., Ludwigshafen a. Rh.

and by

GENERAL ANILINE WORKS, Inc., Albany, N. Y. and Grasselli, N. J.

NEW YORK OFFICE: 230 Fifth Avenue

BOSTON PROVIDENCE PHILADELPHIA CHARLOTTE CHICAGO SAN FRANCISCO

Piedmont Chemists to Meet on April 12

The spring meeting of the Piedmont Section of the American Association of Textile Chemists and Colorists will be held at the Poinsett Hotel, Greenville, S. C., Saturday, April 12, it has been announced by A. R. Thompson, Jr., Charlotte, N. C., secretary.

The meeting will be featured by round table discussions on the application of vat colors, which will be conducted, as follows: Vat Colors in Printing, by Dr. H. B. Marshall, of the Ciba Co., New York, N. Y.; Vat Colors on Cotton Yarns and Raw Stock, by S. H. Williams, General Dyestuff Corp., Charlotte, N. C.; Vat Colors on Cotton Piece Goods, by N. R. Vieira, of Newport Chemical Works, Greenville, S. C.

Paris Models in American-Made Cottons

Original Paris models designed from American-made cottons will be exhibited at the summer fashion show of the Garment Retailers of America in the Hotel Astor, April 8th, C. K. Everett of The Cotton-Textile Institute announces.

These models which will be a feature of the Institute's new summer collection were selected by Mrs. Katrine Hooper of Boston who attended the Paris openings last month and has just returned from a visit to other European markets and fashion centers.

"What the Paris dressmakers are doing this year only emphasizes the necessity for American designers to go ahead perfecting the artistry of styling and design of our cotton fabrics," Mrs. Hooper said.

North Carolina Mill Men to Meet June 17 and 18

The twenty-fourth annual convention of the Cotton Manufacturers Association of North Carolina will be held at Grove Park Inn, Asheville, N. C., Tuesday and Wednesday, June 17-18, 1930, according to an announcement from Hunter Marshall, Jr., secretary and treasurer.

Lorraine Mfg. Co., at Pawtucket Not Shut down

In March 15 issue of TEXTILE WORLD there was published a paragraph to the effect that Lorraine Mfg. Co., Pawtucket, R. I., had shut down indefinitely. This report was wholly in error and we hope this correction will set straight any who have been misled by this regrettable mis-statement.

Mallinson Leases Additional Uptown N. Y. Office

H. R. Mallinson & Co., Inc., broadsilks, announced that the company has leased most of one floor at 509 Madison Avenue, at 53d Street, New York City, for its upholstery and decorative departments. The company will open the Madison Avenue quarters about May 1.

Modern Style Trends Inspire New Bed-Sheet Designs

Observing the steady advances made by the so-called modernistic school of design, manufacturers of Utica sheets and pillow cases have produced a sheet which is inspired largely by this trend. The new Utica products which will be made both in Utica and Mohawk sheets and pillow cases, show an attractive design in woven-in straight panels of color. These panels appear in the hem and also along the sides of the sheets so that when the bed is made up, the outside

New Use of Color in Utica Sheets

sheet shows its long bands of color over the side of the mattress.

Shown in a modernistic setting, a bed made up with these sheets indicates at once its harmony with the spirit of the modern design and furnishes a decidedly correct note in a modern bed ensemble. The stripes or panels on these new sheets will be made in seven pastel shades, all fast to light and laundering.

These new sheets have excited considerable interest among hotel operators who find possibilities in their use as third sheets to cover the blankets.

The new packages of the Utica Steam & Mohawk Valley Cotton Mills include two new and improved boudoir boxes. These new boxes have a strong appeal as gift merchandise.

Burlaps Higher on the Exchange

On Wednesday, burlap futures on the exchange rose 19 to 44 points due to rumors of shorter working hours in Calcutta. Large short interests covered rapidly when it was seen that sellers were few and firm. The market closed very firm.

The cables regarding shorter working hours were not given much credence in the actual market, although as a protective measure, quotations ranged higher. Actual demand for futures was at a minimum and only one spot transaction was reported. The 8 oz. 40s for spot, two weeks arrival and April shipment, were 5.10c. The 10½ oz. 40s for the same positions were 6.30c.

Stylist Sees 1930 Sales Gain for Lace Garments

"Laces and the possibilities they hold for greatly increased sales during 1930," was the subject of an address by Miss Edith M. Barrett, stylist, before a meeting of salesmen covering part of the eastern territory for the American Fabrics Co. of Bridgeeport, Conn.

Textile Patents

CIRCULAR knitting machine. 1,748,946. Charles W. Diffenderfer, Greencastle, Pa. Assigned to The Interwoven Mills, Inc., New Brunswick, N. J.

CLOTH spreading and piling machine. 1,749,214. Joseph E. Gadbois, Springfield, Mass.

COTTON harvester and picker. 1,749,468. Joseph Darbonne, Jr., Elton, La.

DRAWING device for spinning frames and for preparing machinery. 1,749,393 Jules Pflimlin, Mulhouse, France.

DRAWING device for spinning mules, spinning frames, and preparatory machines. 1,749,156. Jules Pflimlin, Mulhouse, France.

FIBERS from fibrous plants, Machine for obtaining the. 1,749,540. George A. Lowry, New York, N. Y. Assigned to Fabricord, Inc., New York, N. Y.

FLAT-KNITTING frame. 1,749,479. Rudolph Graeber, Chemnitz, Germany. Assigned to Schubert & Salzer Maschinenfabrick Aktiengesellschaft, Chemnitz, Germany.

KNITTED fabric and method of producing the same. 1,749,245. Joseph A. Firsching, Utica, N. Y.

LET-OFF for looms. 1,749,120. William H. Baker, Montreal, Quebec, Canada.

LET-OFF mechanism for looms. 1,749,131. Harry A. Davis, Hopedale, Mass. Assigned to Draper Corp., Hopedale, Mass.

PILE fabric. 1,749,551. James P. Stroud, Noble, Pa.

SHED-DIVERTING means for looms. 1,749,123. Arthur E. Benson, Boston, Mass Assigned to Draper Corp., Hopedale, Mass.

SIZING vats and the like, Means for regulating the level of fluid in. 1,749,111. John J. Queen, Charlotte, N. C.

SLUG catcher or yarn cleaner. 1,749,461. Gustaf S. Beckman, Cranston, R. I. Assigned to Universal Winding Co., Boston, Mass.

SLUG or bunch catcher. 1,749,511. Thomas J. Sands, Auburn, R. I. Assigned to Universal Winding Co., Boston, Mass.

STEAMING and refinishing cloth, Method of and apparatus for. 1,749,564. Israel Cohen, Philadelphia, Pa.

SWIFT. 1,749,460. Eugene R. Alderman, South Hadley, Mass.

TENTERING machine. 1,749,584. Alpheus O. Hurxthal, Philadelphia, Pa. Assigned to Proctor & Schwartz, Inc., Philadelphia, Pa.

TESTING machine. 1,749,265. Samuel N. Senna, Chicopee, Mass. Assigned to B. F. Perkins & Son, Inc., Holyoke, Mass.

TYING device. 1,749,280. Elmer Perry Gummo, Monument, Pa.

WEAVING machines, Automatic take-off motion for. 1,749,349. Jonathan Lucas, Savannah, Ga. Assigned to Lucas-Lamborn Loom Corp., New York, N. Y.

WEIGHTING of silk. 1,749,699. Albert Feubel, Krefeld, Germany.

WINDING machines, Traversing means for. 1,749,355. Franklin Augustus Reece, Chestnut Hill, Mass. Assigned to Universal Winding Co., Boston, Mass.

WOOL and the wool thus treated, Method of treating. 1,749,410. Charles A. Brown, Salem, and Gustavus J. Esselen, Jr., Swampscott, Mass. Assigned to Manufacturing Improvement Corp., Boston, Mass.

YARN beam. 1,747,286. John Brandwood, Southport, England.

KNOWLEDGE SITS IN WEALTH'S OLD SEAT

In the 'Eighties management was a matter of arbitrary power. The Old Man owned the business, and other people did as they were told. When his fat fist hit the desk the argument was over. He had to take the chance of being wrong, for accurate knowledge of conditions and of methods was difficult to obtain. There was no generally accepted science of management. He had no other authority to fall back on than the power derived from his ownership.

But with the 'Nineties things began to change. First came the move for systematization in business. Then followed a period characterized by the demand for efficiency in personnel and equipment. And more lately has developed the scientific viewpoint in business—the respect for authenticity in basic data for manufacturing and marketing.

The result is that today successful businesses are managed by virtue of skill and knowledge rather than by weight of ownership. Executives quote the authority, not of shares, but of facts. Exact knowledge of technique, of materials, of methods and of economic conditions is the mark of modern business management.

What brought about this change? Three factors: the vision of individual leaders, the natural acumen of other business men and the stimulation of thought by industrial and merchandising papers.

For the rapidity of this progress the business press has been largely responsible. It has not only been a leader in progressive business thought but in itself it has been a chief agent in the gathering and presentation of facts—up-to-the-minute, definite, proved, organized and correlated facts—upon which business has built its present sound structure. To this vital usefulness the business press owes its influence with business men. It has become an essential factor in the daily conduct of their affairs. It is this indispensability to its readers which renders the business paper of today so useful a means of advertising for any manufacturer of a product sold to industry or through the trade.

THIS SYMBOL *identifies an A B P paper . . . It stands for honest, known, paid circulation; straightforward business methods and editorial standards that insure reader interest . . . These are the factors that make a valuable advertising medium.*

THE ASSOCIATED BUSINESS PAPERS, INC.

FIFTY-TWO VANDERBILT AVENUE · NEW YORK CITY

This publication is a member of the Associated Business Papers, Inc. . . . a cooperative, non-profit organization of leading publications in the industrial, professional and merchandising fields, mutually pledged to uphold the highest editorial, journalistic and advertising standards.

Business News

W. R. Joyner to Cover Part of South for Corn Products Co.

W. R. Joyner has been appointed sales representative in Virginia and North Carolina for Corn Products Sales Co., with headquarters in the Greenville (S. C.) office which is under the direction of J. R. White. Mr. Joyner was formerly connected with the Southgate Brokerage Co., Norfolk, Va., and succeeds Nelson B. Arrington, who recently resigned to accept a position with Union Bleachery, of Greenville.

Describes Planning of the "King Cotton" Loom

The leading article in the March issue of *Product Engineering*, one of the recent additions to the group of McGraw-Hill publications, is by Albert Palmer, research assistant to the general manager, Crompton & Knowles Loom Works, Worcester, Mass., and describes the steps taken in the planning and designing of the "Cotton King" loom. The article is entitled, "How Customer's Customer Needs Affect Production Machinery Design."

Contract Let for Scott & Williams Addition

Scott & Williams, Inc., Laconia, N. H., manufacturers of knitting machinery, have awarded a general contract to Temple & Crane, Inc., Boston, Mass., for a four-story and basement addition, 65x250 ft., with wing extension, 25x40 ft., to cost over $160,000, with equipment. Lockwood Greene Engineers, Inc., Boston, are the architects and engineers.

Corn Products Technical Director on Visit to South

Dr. W. R. Cathcart, technical director, Corn Products Refining Co., New York, N. Y., recently spent some time in the South and was a visitor in Greenville, S. C., where the southern office of Corn Products Sales Co., is located.

Michigan Alkali in New Sales Offices

Michigan Alkali Co., general sales department, on and after March 31, will be located at 10 East 40th St., New York City. The firm handles Wyandotte brand chemicals.

E-M Baltimore Office in New Location

The Electric Machinery Mfg. Co. of Minneapolis, Minn., has announced the new location of their Baltimore office. Formerly at 432 North Calvert Street, the Baltimore office will now be located at 600 North Calvert Street.

Coffin Awards to General Electric Employes

Out of the 70,000 employes of the General Electric Co., 37, who during 1929 saved money for the company or contributed to its efficiency in an unusual degree, have been given awards under the Charles A. Coffin Foundation. The awards in each case consist of a certificate of merit and a substantial sum of money. Many of the men made suggestions which mean a definite annual saving to the company. In nine cases these savings have been estimated, and the total figures up to more than $1,250,000 per year.

The recipients of these awards come from various branches of the company's organization. By far the larger number, 24, is made up of factory workmen or foremen. The proportion of employes of this class is somewhat higher than in previous years. Ten of the recipients are engineers or laboratory men, and the other three are commercial men.

Geigy Co. to Build Addition

The Geigy Co., Inc., Jersey City, N. J., manufacturer of dyes, etc., will soon begin the construction of a five-story and basement addition, 50x100 ft., reported to cost over $100,000, with equipment. Rudolph Ludwig, New York, is architect.

◆

Pepperell Executive Lectures on Sales Promotion

Allyn B. McIntire, director of sales development of the Pepperell Mfg. Co., Boston, Mass., delivered the lecture on March 10 in the Boston University's course of sales planning and promotion.

This course embodies a series of lectures on recent developments in successful sales planning and promotion and has been well attended by junior and major executives in different businesses.

Mr. McIntire outlined a few of the plans which Pepperell has so successfully followed in its sales and sales promotion programs. The story of the introduction and sale of Lady Pepperell sheets and pillow cases, conducted along modern lines, was outlined, as well as many of the policies now being used by this company.

Reference was also made to the thorough sales research program now being carried on by Pepperell as evidence of the fact that even a long established business has many opportunities for modernization.

Rayon Imports for February

The Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, reports imports of rayon yarns, waste, staple fiber and yarns made from waste into the United States during February, 1930, as follows:

	Pounds	Dollars
Yarns, Threads and Filaments:		
Belgium	11,253	5,956
France	225,738	163,522
Germany	253,738	230,469
Italy	234,500	186,427
Netherlands	198,000	143,161
Switzerland	23,502	23,028
Canada	6,494	9,494
Japan	300	169
	953,525	762,226
Waste:		
Austria	2,244	158
Germany	3,175	454
Italy	11,878	3,211
Netherlands	11,792	1,129
Sweden	1,559	167
Switzerland	45,687	12,928
United Kingdom	110,192	4,983
Canada	52,276	3,943
Japan	9,000	1,566
	247,803	28,539
Yarns Made from Waste:		
Switzerland	7,850	4,837

Obituary

Leslie W. Lutton

Leslie W. Lutton, superintendent of the Gallia Silk Mill, Coplay, Pa., died recently at his home in Lawrays, Pa., at the age of sixty. He was born at Amsterdam, N. Y. At the age of 18 he removed to Paterson, N. J., there to learn the silk business. In 1900 he was made foreman of the Dougherty & Wadsworth mill of that city. Later he was with Dexter Lamber & Co., of Paterson, until 1910, when he became superintendent of the South Bethlehem Silk Mill, and a year later of the Gallia Silk Mill at Coplay, the position which he held at the time of his death. In 1896 Mr. Lutton married Sybil B. Bowie, of Paterson, N. J., who survives as do two sons, a granddaughter, a brother and four sisters.

Harry A. Riegel

Harry A. Riegel, chief purchasing agent since 1897 for the Textile Machine Co., Reading, Pa., died at his home in that city March 19, at the age of 62. He was the son of the late J. Allen and Annie (Fullmer) Riegel, and was educated in the public schools of Reading. When the Textile Machine Co. opened in 1893, Mr. Riegel was the first employe of the firm. He is survived by his widow, three sons, one daughter, nine grandchildren, two brothers, and two sisters.

William H. Darcy

William H. Darcy, who for years had charge of the sample and pattern departments of the former Scotia Worsted Co., and of the Barnai Worsted Co., both of Woonsocket, R. I., died at his home in North Smithfield, R. I., recently following a paralytic shock. He was born in North Smithfield and lived there and in Blackstone, Mass., all his life. He leaves a widow, one daughter, and two sons.

Mrs. Margaret A. Hutchison

Mrs. Margaret A. Hutchison, mother of Charles E. Hutchison, president of the American Yarn & Processing Co., Mount Holly, N. C., died at the home of her daughter, Mrs. Charles W. Ellis, in Greenville, S. C., March 22. Mrs. Hutchison was 98 years of age. The funeral was held from the Presbyterian Church at Mount Holly, March 24.

Alphonse N. Goyette

Alphonse N. Goyette, superintendent for the Chaffee Bros. Co., Oxford, Mass., for the last 42 years, died of pneumonia at his home in that town on March 11, after a week's illness. He was born in Canada 67 years ago, but had lived in Oxford most of his life. He leaves a widow, six daughters and four sons.

John B. Kirk

John B. Kirk, sales manager of the Duofold Health Underwear Co., Mohawk, N. Y., died at Miami, Fla., following a brief illness. He had been in ill health for several months and made the trip south in an effort to recover. He was a graduate of the University of Pennsylvania. His wife and two children survive.

Perry Hobby

Perry Hobby, for many years overseer of twisting for the Bibb Mfg. Co., Macon, Ga., died suddenly at his home recently.

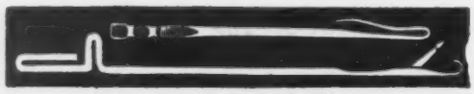
COOPER

Spring Beard Needles

for

ECONOMY and UNIFORMITY

THEIR QUALITY IS REFLECTED IN THE FABRIC



COOPER

High-Speed Latch Needles

HAVE A REALLY NON-TURNABLE RIVET

CHARLES COOPER CO., Inc.

Bennington, Vermont, U. S. A.

G. W. Morton, Southern Representative, 1002 Magnolia St. Greensboro, N. C.

Elbrook, Inc. 50 Peking Rd., Shanghai, China

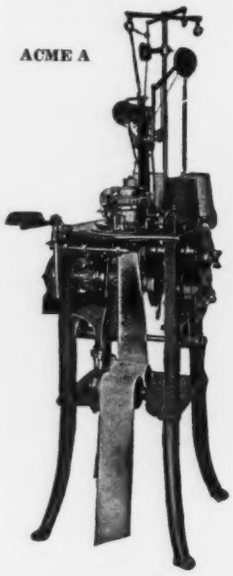
NEEDLES and MACHINES

of RECOGNIZED QUALITY and WORTH are the

ACME PRODUCTS

made for SERVICE in the KNITTING ROOM

ACME A



Revolving Cams

ACME D

Revolving Needles

Ask those who use them.

See also CONSOLIDATED TEXTILE CATALOG

Acme Knitting Machine and Needle Co., Franklin, N. H.

No. 9 Foot Power Rotary Sewing Machine

An Exceptionally Efficient Machine

THIS Portable Foot Power Sewing Machine has earned itself a reputation for economy in hundreds of mills. Gear driven, it is easy to operate and capable of attaining a high rate of speed. It is used in various parts of the mill, principally in the dyehouse, bleachery and print room for sewing Woolen, Cotton, Burlap and other fabrics of all weights, wet or dry. Sewing Head operates without arm or connection. *Write for details.*

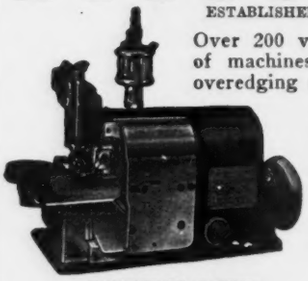
TILLINGHAST SUPPLY & MACHINE CO.

76 Lafayette St.

SALEM, MASS.

M E R R O W I N G

ESTABLISHED 1838



Over 200 varieties and modifications of machines for trimming, seaming, overedging and ornamenting all sorts of fabrics.

Special machines for Flat-Butted - Seaming ends of piece goods, saving cloth and labor in subsequent processing.

Let us show results on swatches of your own fabrics.

MERROW

TRADE MARK REG. U. S. PAT. OFF.

See also CONSOLIDATED TEXTILE CATALOG

THE MERROW MACHINE COMPANY

14 Laurel St., Hartford, Conn., U. S. A.

L. T. IVES CO.

Established 1874 Manufacturers of all kinds of

Spring Knitting Needles

Slides, Sinkers, Jacks, Etc.

New Brunswick, N. J.

Do you read the Searchlight Section every week?